DOCUMENT RESUME

ED 366 751 CE 065 584

AUTHOR	Laurence, Janice H.; And Others
TITLE	Effects of Military Experience on the Post-Service Lives of Low-Aptitude Recruits: Project 100,000 and the ASVAB Misnorming. Final Report 89-29.
INSTITUTION	Human Resources Research Organization, Alexandria, Va.
SPONS AGENCY	Office of the Assistant Secretary of Defense for Force Management and Personnel (DOD), Washington, DC.
REPORT NO	PRD-FR-89-29
PUB DATE	Dec 89
CONTRACT	C-N66001-87-D-0085
NOTE	243p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC10 Plus Postage.
DESCRIPTORS	Adult Education; Aptitude; *Economic Status; *Educational Attainment; Educational Status Comparison; Followup Studies; *Low Achievement; Marital Status; *Military Service; Postsecondary Education; *Veterans

ABSTRACT

During the recent past, the U.S. Department of Defense has, on two occasions, admitted large numbers of low-aptitude individuals into the Military Services: Project 100,000 and the 1976-80 misnorming of the enlistment test. To determine the impact of having served in the military on the subsequent experiences of these individuals, samples of Project 100,000 participants and low-aptitude youth admitted during the misnorming were asked questions concerning their current (1986-87) employment, economic, educational, and family status. Comparison groups composed of low-aptitude nonveterans from both eras were drawn from the follow-ups to the 1966 and 1979 National Longitudinal Surveys. Comparisons between Project 100,000 participants and their nonveteran peers showed that, in terms of employment status, educational achievement, and income, nonveterans appeared better off. Veterans were more likely to be unemployed and to have a significantly lower level of education. Income differences ranged from $5,000-$7,000, in favor of nonveterans. Veterans were more likely to have been divorced. No statistically significant differences were found between the low-aptitude veterans who served during the misnorming era regarding employment status, occupational category, or average income. However, the veterans had acquired significantly less formal education, had higher divorce rates, and were more likely to be dissatisfied with their jobs. (Appendixes include 86 references and supporting data tables.) (YLB)

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Janice H. Laurence
Peter F. Ramsberger
Monica A. Gribben

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Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY *(Leave blank)*

2. REPORT DATE
December 1989

3. REPORT TYPE AND DATES COVERED
FINAL

4. TITLE AND SUBTITLE
Effects of Military Experience on the Post-Service Lives of Low-Aptitude Recruits: Project 100,000 and the ASVAB Misnorming

5. FUNDING NUMBERS
C N66001-87-D-0085

6. AUTHOR(S)
Laurence, Janice H., Ramsberger, Peter F., and Gribben, Monica A.

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Human Resources Research Organization (HumRRO)
1100 South Washington Street
Alexandria, Virginia 22314-4499

8. PERFORMING ORGANIZATION REPORT NUMBER
PRD-FR-89-29

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
Office of the Assistant Secretary of Defense
(Force Management and Personnel), Pentagon
Room 2B271, Washington, DC 20301
Navy Personnel Research and Development Center
San Diego, California 92152

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for Public Release, Distribution Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

During the recent past, DoD has, on two occasions, admitted large numbers of low-aptitude individuals into the Services -- Project 100,000 and the 1976-1980 misnorming of the enlistment test. In both instances, those admitted scored between the 10th and 30th percentiles on the Armed Forces Qualification Test (AFQT).

To determine the impact of having served in the military on the subsequent experiences of these individuals, samples of Project 100,000 participants and low-aptitude youth admitted during the misnorming were asked a variety of questions concerning their current (1986-87) employment, economic, educational, and family status. Comparison groups comprising low-aptitude individuals from both eras who never served in the military were drawn from follow-ups to the 1966 and 1979 National Longitudinal Surveys.

Low-aptitude veterans were not found to be better off economically, educationally, or socially than their nonveteran counterparts.

14. SUBJECT TERMS
Low Aptitude
Project 100,000
ASVAB Misnorming
Residual Effects of Service

15. NUMBER OF PAGES
252

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

NSN 7540-01-280-5500

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Prescribed by ANSI Std. Z39-18

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Effects of Military Experience on the Post-Service Lives of Low-Aptitude Recruits: Project 100,000 and the ASVAB Misnorming

Janice H. Laurence
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Sponsor:

Office of the Assistant Secretary of Defense
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HUMAN RESOURCES RESEARCH ORGANIZATION
1100 South Washington Street • Alexandria, Virginia 22314

Effects of Military Experience on the Post-Service Lives of Low-Aptitude Recruits: Project 100,000 and the ASVAB Misnorming

Executive Summary

In the face of increasing numbers of youth entering the work force lacking the necessary basic skills, a variety of proposals have been put forth to meet the challenge of maintaining a qualified manpower pool for both the private and public sectors. One such proposal is that the Department of Defense (DoD) admit larger numbers of underprivileged and low-aptitude youth. It is suggested that the training and discipline which are an inherent part of military service will assist such youth in developing skills and attitudes to help them overcome their disadvantages as they compete in the civilian sector. Largely lacking, however, are data which address the issue of whether serving in the military actually does have positive post-service effects. The present study was undertaken to shed light on this issue.

During the recent past, DoD has, on two occasions, admitted large numbers of low-aptitude individuals into the Military Services. The first instance was Project 100,000, initiated in 1966 by Secretary of Defense Robert S. McNamara in response to President Lyndon B. Johnson's War on Poverty, as well as the escalating manpower needs brought about by the Vietnam War. More than 320,000 low-aptitude recruits entered the military by 1971, when the program was abandoned in the face of decreased manpower requirements. The second wave of low-aptitude individuals occurred in peacetime between 1976 and 1980 due to the misnorming of the enlistment test. In both instances, those admitted scored between the 10th and 30th percentiles on the Armed Forces Qualification Test (AFQT).

To determine the impact of having served in the military on the subsequent experiences of these individuals, samples of Project 100,000 participants and low-aptitude youth admitted during the misnorming were asked a variety of questions concerning their current (1986-87) employment, economic, educational, and family status. Comparison groups comprising low-aptitude individuals from both eras who never served in the military were drawn from follow-ups to the 1966 and 1979 National Longitudinal Surveys. After applying weights to control for demographic differences between the

veteran and nonveteran samples, analyses were carried out to determine if having served in the military provided the veterans advantages over their nonveteran low-aptitude counterparts.

Comparisons between Project 100,000 participants and their nonveteran peers did not show veterans to have an advantage. In fact, in terms of employment status, educational achievement, and income those who never served appeared better off than those who had been in the military. Veterans were found to be more likely to be unemployed, and to have an average level of education significantly lower than the nonveterans. Income differences between the two groups ranged from $5,000 to $7,000, depending on the sources included, in favor of the nonveterans. Finally, veterans were less likely than nonveterans to be married, and more likely to have been divorced.

The low-aptitude veterans who served during the misnorming era also were not found to be better off economically, educationally, or socially than their nonveteran counterparts. There were no statistically significant differences between the two groups regarding employment status, occupational category, or average income. However, the veterans had acquired significantly less formal education, had higher divorce rates, and were more likely to be dissatisfied with their jobs, as compared to nonveterans.

A somewhat anomalous finding was that when veterans were asked if they felt that serving in the military had benefitted them in terms of their subsequent careers, large proportions of both the Project 100,000 and misnorming era veterans replied that it had (50 and 52 percent, respectively). The most often cited positive impact of service was the sense of maturity and discipline which being in the military had provided.

In terms of the central question of interest in this study, therefore, the results are unequivocal. These data provide no evidence to support the hypothesis that military service offers a "leg up" to low aptitude and disadvantaged youth as they seek to overcome their cognitive and skill deficits and compete successfully in the civilian world.

Foreword

Twice in recent history, the Department of Defense (DoD) admitted into the military large numbers of low-aptitude individuals who would not have qualified under existing standards. During Project 100,000, they entered as a result of a policy decision designed to improve their economic status through military service. The other large-scale accession of low-aptitude recruits was due to a scoring error on the enlistment screening test.

Though considerable research has been devoted to ascertaining the military performance of these and other low-aptitude recruits, there is a lack of documentation of the effect of military experience on those with relatively low cognitive ability. The Office of the Assistant Secretary of Defense (Force Management and Personnel), in conjunction with the Navy Personnel Research and Development Center (NPRDC), therefore funded a study of low-aptitude military veterans to determine the long-term effects of military service. The Veterans' Life Experiences Study (VETLIFE) was conducted by the Human Resources Research Organization (HumRRO), with the assistance of the National Opinion Research Center (NORC) of the University of Chicago. Surveys were conducted and a database was developed from which the labor force and other life experiences of veterans could be compared to existing data for nonveterans with similar aptitude levels and demographic backgrounds. VETLIFE assesses the degree to which military experience helps disadvantaged youth in their subsequent career and educational pursuits.

A previous volume (Laurence, Colot, Ramsberger, Campbell, Hutchinson, Glusberg, & Greene, 1988) presented detailed information about the data. The present report provides an in-depth description of the methodology employed to gather, weight, and analyze the data, and summarizes the results regarding the veterans' military experiences and social and economic adjustment.

Many individuals contributed to this effort. First and foremost, VETLIFE was inspired by Dr. W.S. Sellman, Director for Accession Policy, Office of the Assistant Secretary of Defense (Force Management and Personnel). Without his ideas, enthusiasm, and direction, this project would not have become a reality. Dr. Deborah Rogers of OASD (FM&P) was

instrumental as a sounding board for many of the ideas conveyed in this report. Thanks are also extended to Dr. Gerald Laabs of NPRDC for providing encouragement and comments on the draft report. The Defense Manpower Data Center (DMDC), under the direction of Mr. Kenneth Scheflen and Mr. Robert Brandewie, graciously provided access to their data files, computer, and programming support. Among others, we are indebted to Ms. Helen Hagan, Mr. Les Willis, and Mr. Lou Pales.

Several persons from HumRRO provided their expertise in conducting the study and completing this report. Ms. Janice Laurence served as the overall project director. She and Dr. Peter Ramsberger were the principal analysts and authors of this report. Ms. Monica Gribben provided invaluable support in organizing the vast amounts of data which were generated, as well as contributing to the programming and writing of this document. Mr. Gregory Mosher coded the open-ended responses to the survey, and assisted in developing the analysis plan. Ms. Linda Martin collected literature for the background section of this report, and provided editorial assistance. Mr. Fred Suffa developed the economic adjustments that allowed income data from different periods to be compared. Drs. Barbara Means and Wayne Camara were responsible for the survey development and the sampling portions of the study, prior to their departure from HumRRO. Ms. Marjorie Lee, Ms. Marty Carson, and Ms. Emma James provided invaluable word processing support. Dr. Brian Waters, Manpower Analysis Program Manager, commented on the draft report. Ms. Lola Zook provided editorial assistance. Mr. William Osborn, President of HumRRO, and Dr. Robert Sadacca, Vice President, provided encouragement and support throughout the course of the project.

Dr. Michael Wilson of Westat, Inc. developed the weighting plan. His technical knowledge, patience and attention to detail were an invaluable contribution to the performance of this study. Dr. Charles Cowan, Chief Mathematical Statistician for the National Center for Education Statistics reviewed and approved the weighting and analysis methodologies and provided useful comments on a draft of this document.

Finally, the veterans who provided the data which are the subject of this report are to be thanked. Their willingness to contribute their time to answer the many questions contained in the survey is gratefully acknowledged.

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INTRODUCTION

Background

The Department of Defense (DoD) exists to secure the nation's survival and independence against hostile powers that threaten our way of life (Department of Defense, 1988). Defense's mission is to preserve the freedom of the United States of America and secure its vital interests, thereby helping to create a prosperous environment. In performing its role as an instrument of national security, DoD employs and deploys not only the power of weapons and tactics, but also military manpower--a legion of soldiers, sailors, marines, and airmen.

Indeed, the size of the active duty enlisted force (i.e., not counting officers or those in the reserves) even during peacetime is quite impressive. In 1918 (World War I), around 2.7 million enlisted military personnel were on active duty. At the height of World War II, this number climbed to more than 10.7 million. The peak level during the Korean Conflict (1952) was 3.2 million. As Vietnam hostilities were raging (1968), some 3.1 million were among the enlisted ranks in the Army, Navy, Marine Corps, and Air Force. Today, around 1.8 million enlisted men and women are on active duty in the Services. Though much reduced in comparison to the above times of war or national emergency, today's enlisted manpower strength is still quite healthy (and a far cry from the 672 enlisted active duty personnel in 1789 or even the 119,839 at the turn of the 20th century) (Department of Defense, 1988).

To maintain today's peacetime manpower strength, the Services choose around 300,000 new active duty recruits each year from about three times as many applicants. Accessions (as entering recruits are called) are drawn primarily from among the nation's young and vocationally inexperienced. These recruits are selected for not just one but hundreds of diverse military jobs. They serve as infantrymen, electronics technicians, nuclear power specialists, electrical or mechanical equipment repairers, and within a multitude of other occupations. Over the years, these jobs have become increasingly specialized and technologically complex.

Screening for Service entry is accomplished using a variety of criteria--aptitude, education credential, physical fitness, moral character, age, and citizenship. Recruit quality, however, is generally indexed on the basis of the first two measures. Over 40 years of research has shown that recruit aptitude levels are strongly related to military training and job performance (Campbell, 1986, 1987; Department of Defense, 1980, 1987, 1989; Green, Wing, & Wigdor, 1988; Waters, Laurence, & Camara, 1987; Wigdor & Green, 1986). In addition, decades of study results have demonstrated that those without a high school diploma are twice as likely as high school graduates to leave the military before completing a full term of service (cf., Laurence, 1987). Thus, the Services seek to enlist high school graduates over nongraduates. The latter are not automatically barred from joining the military, but they are required to meet more stringent aptitude standards (to ensure accepting only the "best" of such applicants), and congressional mandate places a ceiling on their enlistment.

Of all the selection screens, cognitive aptitude is the single most important determinant of who gets into the military and who does not (Waters, et al., 1987). Standardized, group-administered aptitude tests were actually introduced into the military during World War I, when the Army

Alpha test was developed to meet the needs of rapid mobilization, training, and assignment. During World War II, an improved classification instrument --the Army General Classification Test (AGCT)--was introduced. It was used to sort "new arrivals according to their ability to learn quickly the duties of a soldier" (Staff, Personnel Research Section, 1945, p. 760).

Since 1950, potential recruits have been screened on the basis of their scores on the Armed Forces Qualification Test (AFQT), which is administered prior to entry. With the advent of the Armed Services Vocational Aptitude Battery (ASVAB) in 1976 as the Service-common selection and classification instrument, the AFQT has remained as the most important ASVAB composite for selection purposes. The AFQT comprises verbal and mathematical ASVAB subtests. Scores on the AFQT are converted into percentiles relative to the national population and are typically categorized for quality reporting purposes into percentile ranges as follows:

AFQT Category	Percentile Range
I	93-99
II	65-92
IIIA	50-64
IIIB	31-49
IV	10-30
V	1-9

Each of the Services sets formal minimum ASVAB standards and, depending upon numerical requirements and recruiting market conditions, specifies higher quality goals. Individuals within AFQT Categories I through IIIA are actively sought; those within Category IV are enlisted sparingly (with actual limits placed on their enlistment); and those within Category V are, by law, ineligible to enlist. Over the past decade, the recruiting market has been quite favorable. In Fiscal Year 1988, for example, only 5 percent of accessions scored within the Category IV range and only 7 percent had not graduated from high school.

Without heavy wartime manpower demands, with a reduction in the proportion of personnel needed to fill general, low- or non-technical jobs, and with increasing technological sophistication, the Services have become more and more choosy about the quality of the force. Attempts to enhance military manpower effectiveness revolve around recruiting the best-qualified youth who have the potential to quickly absorb training, perform well in their jobs, and become effective leaders. The Defense Department spends in excess of $5 billion per year to provide recruits with basic and advanced training in well over 1,000 enlisted occupations. However, inadequate selection and classification can affect more than training costs. After training, recruits are made responsible for operating and maintaining literally tens of billions of dollars worth of military hardware. And the costs of poor performance are not just monetary. According to Driskell and Olmstead (1989, p.43):

> The military environment is in a sense more serious than the civilian because military personnel must be prepared to fight for their country and die in support of its defense. The consequences of inadequate selection and classification procedures, poor training, or bad equipment design are grave.

Though the aptitude tests used by the military for selection have been subjected to considerable internal and external scrutiny and have been rated high in terms of fairness, reliability, accuracy, and efficiency (Bock & Mislevy, 1981; Defense Advisory Committee on Military Personnel Testing, 1983), the setting of standards and quality goals is recognized to be somewhat arbitrary. Concerning the minimums for the AFQT when it was first introduced in 1950, Uhlaner and Bolanovich (1952, p. 31) stated that "all cutting scores were administratively determined." In the vernacular, this may mean that they were set "by guess and by gosh." According to an official Department of the Army (1965, p. 12) publication:

> Minimum qualifying scores -- cutting scores -- for the Army's selection programs are set so as to reflect the supply of men available to the Army and the Army's need for manpower.

A relationship between aptitude and performance does not automatically establish a mandatory cutting score on the test or quality distribution. However, in light of this relationship, the Services try to set standards as high as applicant supply and recruiting resources permit. For, no matter where it is set, a higher standard will yield more productive recruits, and a lower standard will yield less productive recruits. Though rational, this strategy can inadvertently affect individuals who aspire to become members. Stringent standards disproportionately deny enlistment opportunities and access to the nation's largest education and training institution to the disadvantaged, because undereducated, low socioeconomic status persons are likely to score relatively low on the enlistment screening tests. It is the consequences of military screening and service on such individuals that this report addresses.

Project 100,000 and the ASVAB Misnorming

Though the Military Services do not regard their role as that of a social welfare agency or relish the image as an employer of last resort, the Defense Department has, on two occasions in the past 25 years, witnessed a large influx of low-aptitude (and thus generally disadvantaged) youth. The first infusion was scheduled as part of "Project 100,000," while the second resulted from an inadvertent error in the scoring of the enlistment screening test.

In response to President Lyndon B. Johnson's "War on Poverty," and concomitant with the escalating manpower requirements for the Vietnam War, Secretary of Defense Robert S. McNamara successfully launched Project 100,000 in 1966 despite earlier Service opposition and congressional reluctance. The stated primary goal was to provide a means of upward mobility for the economically and educationally disadvantaged by admitting 100,000 (40,000 in the first year) low-aptitude and medically remedial men into the military annually (McNamara, 1966). Consequently, aptitude standards were relaxed (but not eliminated) and military service opportunities were opened to those previously deemed ineligible on the basis of aptitude.[1] The New Standards Men (NSM), as the participants were called, consisted of men scoring in AFQT Category IV.

More than 320,000 low-aptitude men entered the military under Project 100,000 with promises that they could avail themselves of traditional and remedial skill training while serving their country. The majority of New Standards Men served in the Army (66 percent), with the proportions in the other Services ranging from 10 percent in the Air Force to 12 percent in the Navy and Marines. Most Project 100,000 participants were assigned to combat jobs or to "soft skill" areas not requiring extensive technical training, such as Food Service, Supply, Wire Communications, Motor Transport, and Automotive Repair.

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[1] It should be noted that under Project 100,000, men with certain easily correctable physical or medical disabilities which previously precluded their serving were accepted as well. The bulk (91 percent) of the program's participants, however, were accessed under reduced aptitude standards.

Project 100,000's role in remediating the knowledge and skill deficits of the underprivileged was designed to be less direct than other federally funded civilian manpower programs of the time. The military was to transform the lives of America's poor through its normal rigorous training and socialization (with perhaps somewhat more of its training recycling and some "extra help"). McNamara had originally recommended to Congress in 1965 a smaller but more direct program--the Special Training and Enlistment Program (STEP). He solicited federal funds for more pervasive remedial training of low-aptitude men up-front, before basic, skill, or on-the-job training.

When STEP was rejected by Congress, the better timed and more palatable Project 100,000 was offered in its stead. In keeping with the experimental nature of this rehabilitative effort, participants' military performance indexes were collected, monitored, and compared to control groups. Plans were also discussed to follow their social progress beyond the military. Despite positive endorsements of the relative military performance of New Standards Men by official DoD channels, this social program was terminated in December 1971, when the manpower needs for the war in Southeast Asia abated and DoD could no longer require the Services to accept quotas of low-aptitude personnel.

The second "unscheduled" wave of low-aptitude accessions occurred not in time of war but between January 1976 and September 1980 (Sellman & Valentine, 1981). Rather than being motivated by Presidents Ford or Carter or their appointed Defense Secretaries, this was an unintended byproduct of a miscalibration of the ASVAB. When new forms of the ASVAB were developed for DoD-wide use in 1976, there were undetected flaws in the method used to determine appropriate percentile scores in reference to the normative population. These errors particularly inflated scores in the lower ability range. Thus, many recruits thought to be of average aptitude were, in reality, below average or Category IVs. If the test had been calibrated correctly, many of these individuals would not have qualified for enlistment and thus they were subsequently designated as "Potentially Ineligibles" (Greenberg, 1980).[2] By the time the errors were detected and verified, and new correctly normed and more technically sound forms of the ASVAB were introduced in October 1980, over 300,000 Potentially Ineligibles had entered the military. Because the misnorming episode was what can be called a natural experiment, its participants were not "branded" upon entry. However, there are anecdotal accounts that field commanders were complaining about a quality decline long before the Pentagon's manpower analysts and psychometricians discovered the misnorming.

Military Manpower Policy and Low-Aptitude Youth

Though Project 100,000 has ended and the ASVAB scoring error has been corrected, the controversy surrounding the large-scale accession of low-aptitude personnel continues. In the aftermath of extensive wartime manpower needs and as a result of banner recruiting times, the Services have steadily increased recruit quality. Recruiting solely through volunteer means has not resulted in a low-quality, grossly unrepresentative force as some had feared it would. At the time of the transition to the All-Volunteer Force, some politicians and defense analysts voiced concerns that without the draft as a manpower procurement tool, the onus of defending the nation would fall disproportionately on the poor, the minorities, and the mentally marginal (Sellman, 1982). The speculation was that the volunteer force would be a mercenary force, "conscripted" as a result of their disadvantaged social and economic status. It was argued that such a compilation of manpower would be detrimental not only to the constituents but to military effectiveness as well.

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[2] Because enlistment standards differ by Service and high school graduation status, the definition of Potentially Ineligibles (PIs) varies from Service to Service. Most PIs were in the AFQT Category IV range. In the Army, for example, PIs were high school graduates who actually scored below the 16th percentile and nongraduates with corrected scores below the 31st percentile. The corresponding cutting scores for the Navy were the 21st and 31st percentiles, respectively. In the case of the Air Force, some PIs were actually above the Category IV range since the minimum AFQT score for nongraduates was then at the 65th percentile. For the purposes of the present study, PIs were operationally defined as only (but all) Category IV accessions.

This concern proved to be a false alarm in the long run. In fact, somewhat ironically, now that the Services can boast to an ever-vigilant Congress that they are filling their ranks with quality personnel, some critics claim that by raising standards, DoD is penalizing disadvantaged youth (Sticht, 1989). Military service is an appealing avenue for many of the underprivileged. The high enlistment propensity and voluntary participation rates (of those eligible) of low-aptitude personnel attest to this fact (Ramsberger, Laurence, & Harris, 1989). However, the quest for quality through the imposition of relatively stringent aptitude requirements essentially limits this attractive option for those of low aptitude, and thus indirectly (but substantially) affects minority and less well educated youth.

The military, with its regimentation, discipline, training, and employment opportunities, is periodically viewed as a powerful and efficient social equalizer. Regardless of the veracity of this argument, the Services are quite vocal against taking on an active welfare role that may undermine their primary mission. Service accession policy representatives advocate compiling the highest quality force possible, particularly given its lean structure, devoid of many menial jobs. As one Defense official put it, Project 100,000 "is a specter that hangs over the Services."

Should the Services accept low-aptitude personnel in great numbers today, or in the future? Germane to this question are the results of numerous studies commissioned by the Department of Defense, linking aptitude to military training and job performance. In fact, very recent data indicate that, throughout the first term, recruits of higher aptitude continually outperform those of lower ability on hands-on measures of job performance (Department of Defense, 1989). Also, studies specifically documenting the performance of Project 100,000 participants and the Potentially Ineligibles have shown that they fared less well than above-average recruits (Heisey, Means, & Laurence, 1985). However, with the exception of somewhat longer training times, generally their performance was not substantially poorer than those in the next higher aptitude group or those who were "just eligible" (Ramsberger & Means, 1987).

Just what do these pieces of information mean for the enlistment of low-aptitude youth? They are used to support the practice of increasing the use of low-aptitude recruits when mobilization or recruiting conditions dictate a need. That is, higher aptitude youth are preferred because of their better chances of success, but low-aptitude youth are acceptable when manpower requirements are unusually high because they are not necessarily liabilities and may be needed to man the force (Sellman, 1988). There is nothing inherently sinister in such vacillation. Such a strategy operates because, as yet, there is no firm empirical basis for determining the appropriate quality mix. Though high-aptitude recruits perform better than lower aptitude recruits, the required absolute level of performance has not been determined. The lack of firm, performance-based standards is not peculiar to the military, but civilian selection decisions and consequences receive less public scrutiny.

In the past, less advanced technology, large force levels (with some duplication of effort), and less restrictive budget constraints contributed to the greater use of low-aptitude recruits. Even without these enabling conditions, many prophesy that in the near future the quality of the forces may again plummet. Population projections indicate that the size of the 18-year-old cohort will be 20 percent smaller in 1995 than it was in 1980. Additional projections exacerbate the concerns over the numerical decline. By 1997, five of every six new labor force entrants will be female, minority group members, or immigrants (Hudson Institute, 1987; Herren, 1989).

In addition, numerous reports are in circulation today with alarming news of the erosion of skills and abilities on the part of this nation's youth, particularly at a time of technological growth. Nationwide, the functional illiteracy rate is around 30 percent. Youth are so deficient in basic English comprehension and mathematics that they are said to be unprepared not only for tomorrow's jobs but today's as well (Educational Testing Service, 1987). As Berry (1989, p. 74) puts it: "[t]he time is late; the problem already critical, worsens daily." To adequately man the force, Defense may have to consider a variety of alternatives, including the utilization of less than preferred groups such as lower aptitude personnel.

Who should serve in the military, and why, is a topic of heated and wavering debate not just for a conscripted force but for one garnered under voluntary means. Though the Services view selection decisions from the rational employer perspective, others examine them from an equity perspective. One of the rationales of Project 100,000 was to have the obligation for military service distributed more equitably. Also, in contrast to their peacetime push, the very advocates of the military as an agent of social reform were probably lamenting the multitude of disadvantaged youth bearing the burdens of service during the Vietnam war. They might contend that, if asked to fight for their country in time of war, low-aptitude youth should not be deprived of the benefits of service in times of peace. Echoes of this plea can be heard today by those who favor the military as a remediator. In the great debate between "guns and butter," it seems there are some who want guns made out of butter. Worried about this nation's quality decline, some look toward the military as an expedient "fix."

Amidst all the emotional and philosophical debates, some important evidence is missing. Did military service significantly improve the subsequent well-being of low-aptitude recruits? There is a dearth of knowledge as to whether the cognitively disadvantaged benefit from military service. It is not known, for example, whether serving has a long-term positive effect on low-aptitude veterans' income, employment, or educational attainment. Significant gains in economic and social standing as a result of military service may justify "employing" a fair share of low-aptitude youth and perhaps revamping training to effectively incorporate such personnel into the military. If, however, the residual effects of serving are nonexistent or negative, then proponents of the military as a social agent may want to temper their arguments now, and refrain from offering military service as a politically viable program in times of national crises.

Long-Term Effects of Service: A View From the Literature

The extant literature shows great interest in the economic returns of military service. Economists and social science researchers have focused on income as the primary objective dependent measure from which to gauge the costs and/or benefits of a term of military service. Income is said to be one of the most powerful indicators of an individual's well-being or achieved status. Unfortunately, there is little consensus regarding the military's subsequent effects. Some say that the military has negative effects on post-service income. Cutright (1974) found that Korean conflict veterans earned significantly less than nonveterans when aptitude, education, race, and age were controlled. Kohen and Shields (1980) similarly concluded for Vietnam veterans that the labor market did not evaluate time in the military as equivalent to time in the civilian economy.

These and other researchers say that the military levies an implicit tax by interrupting career, education, and gains in seniority, or causes a disruption in human capital accumulation. Kassing (1970, p. III-8-19) had this to say about the returns to military service:

> ...military service cannot be said to increase the earnings of veterans relative to what the same men would have earned if they remained in civilian life. The claim that military service is "good for you" is not confirmed by any economic consideration, as it is not confirmed by consideration of attitudes and opinions. Rather, military

> experience has little or no effect on a veteran's attitude or income.

Despite such nay-saying, social scientists persisted in their views that the military ought to have a positive effect on post-service lives. Simply put, they felt that soldiers ought to do better than their civilian contemporaries because attitudes such as punctuality, regularity, and persistent application were developed as a function of the military and its disciplined way of life (Katenbrink, 1969). A variety of more specific theories and/or hypotheses have been expounded trying to link previous military service with a better subsequent life, as indexed by positive labor market results.

Human Capital Theory asserts that income inequalities are the result of productivity differences which arise as a result of individuals' differential investments in or exposure to appropriate experience, education, and vocational training. While an individual is investing, he or she will earn less than those not so acquiring human capital, but will soon after overtake the noninvestor but in a depreciating fashion (Fredland & Little, 1980). Thus, those who enter the military can be thought of as human capital investors whose earnings may be behind their civilian counterparts while in service but rise above upon discharge, given that their training was not military-specific and given enough time to overcome short-term or frictional unemployment (Fredland & Little, 1983).

The Bridging Hypothesis is the most invoked theoretical construct for the military's hypothesized positive impact. Originally coined by Browning, Lopreato, and Poston (1973), the contention is that the military is a broadening experience (e.g., one is exposed to persons from diverse social origins) and acts as a bridge to civilian work life. The military can make it easier to obtain a civilian job and get better pay and it can boost one up the occupational ladder because of acquired geographic and personal mobility and independence, educational and occupational training, and experience with bureaucratic structures.

Still another stance is that the military acts as a screening or signaling device for employers (DeTray, 1982). Veteran status is said to act as a positive screen or signal to employers because former military members have been prescreened (mentally, morally, and physically) upon service entry. DeTray further extended this hypothesis by positing that as the proportion of veterans within an age cohort increases, the better the screen and hence the greater the veteran earnings premiums over nonveterans. Related to the screening effect is the credential or certification effect of military service. The military's honorable discharge for successfully completing a tour of duty is thought to act as a surrogate sheepskin and be likewise valued by civilian employers.

Armed with hypotheses such as these, research has still resulted in contradictory and equivocal findings. Browning, et al. (1973) suggested that the military does not have long-term positive effects for everyone, but is expected to serve a bridging function for the disadvantaged, including minorities. In their study of full-time employed, pre-Vietnam era veterans and nonveterans from the Southwestern part of the United States, they found that black and especially Mexican-American veterans had an earnings advantage over their civilian counterparts. No such advantage was found for Anglos. The greater premium for Mexican-Americans than for blacks was interpreted on the basis of the military's power to improve achieved rather than ascribed attributes. That is, Mexicans as well as blacks improved their skills and abilities and thus benefited from military service, but blacks were still negatively affected by racial prejudice which detracted from the bridging effects. These findings were deemed confirmed by Lopreato and Poston (1977), Poston (1979), and Little and Fredland (1979), who said that the military has its greatest effect among groups with the fewest initial advantages. For minorities and the disadvantaged in general, the military is thought to break the entrapping family and old social ties and integrate them into the living and working arrangements of the majorities.

Unfortunately, selectivity bias has been a strong methodological concern in many studies reporting positive effects for veterans, particularly the underprivileged. Most studies have not properly controlled for the effects of military selection, most importantly aptitude differences between those in the civilian and military sectors. Attempts have been made to equate samples on the basis of education, but this compounds the problem since enlistment policies dating back to the 1960s require higher aptitude scores for those with less than a high school diploma. Thus, nongraduates in the military are generally of higher cognitive ability (which is related to occupational and economic success) than civilian nongraduates.

Aside from failure to disaggregate by race/ethnicity, another factor contributing to the chaos in the literature is differences in eras. Investigators claim that the military was beneficial (or at least not harmful) to World War II and Korean conflict era veterans (and maybe to nonwar periods surrounding these times) but not to those from the Vietnam era. For example, Fredland and Little (1985) found, for World War II veterans, that the bridging hypothesis was overly broad but held for whites as well as blacks. Chamarette and Thomas (1982), on the other hand, concluded that Vietnam veterans would have been better off if they had never served. Studies which have addressed the differential impact of period of service (cf., Villemez & Kassarda, 1976; Martindale & Poston, 1979; Schwartz, 1986) have to varying degrees confirmed these suspicions by finding either less earnings premiums or lower rates of return for education for Vietnam veterans than other veterans, or flat-out labor market disadvantages for those who served in Vietnam. In a series of convincing articles, Berger and Hirsch (1983, 1984) showed not only that earnings benefits for Vietnam veterans relative to nonveterans were inconsequential (and only for nongraduates, and thus particularly confounded), but that in contrast to DeTray's (1982) findings for earlier cohorts, there was no screening effect for Vietnam veterans.

Vietnam veterans seem to have fared poorly. Findings such as these have prompted many studies and opinions regarding the peculiarities of the Vietnam era. Strayer and Ellenhorn (1975) attribute the dismal picture for such former soldiers to the fact that there were "no cheering crowds, or open-armed employers." Their homecoming and adjustment to the civilian world were fraught with hopelessness, apathy, acting out, and disorientation. In a word, for the most part, Vietnam veterans were maladjusted. A recent study by Vinokur, Caplan, and Williams (1987, p. 711) had this to say about service during Vietnam:

> ...of all the long-term postwar consequences of participation in the Vietnam War, perhaps the most encompassing one, economically and emotionally, may be the disadvantage Vietnam veterans have experienced in the civilian labor market.

Service in Vietnam was shown to have long lasting negative effects on emotional well-being. Vietnam veterans had trouble maintaining social relationships and internal control and this contributed to their poorer mental health.

A much needed statistical overview or meta-analysis of the psychological effects (e.g., mental health indicators) of military service for Vietnam veterans recently appeared in the literature (Kaylor, King, & King, 1987). This study's literature review cites many reports attesting to the difficulty of the men returning from Vietnam in adjusting to civilian life, with one predicting that the troubles due to delayed stress response syndrome would reach an upper limit in the mid-1980s. Returning veterans from this most unpopular war exhibited withdrawal from social relationships and their professional achievements were inferior to those of their peers. Overall, the review indicated that "Vietnam veterans manifested poorer sociopsychological health than did the nonveterans and Vietnam-era veterans with whom they were compared." The negative effects were especially notable in later studies, and this was attributed to factors such as a deteriorating sociopolitical climate, with increasing public antipathy and social alienation and diminished social support as the war raged. So being a veteran of this era and particularly having served in Vietnam had negative effects in terms of attitudes (e.g., life satisfaction), alcohol use, stress symptoms, and adjustment.

Another prime contender as an explanation for the negative (or at least nonpositive) labor force experiences of Vietnam veterans is that employers are, or at least add to, the problem. Bordieri and Drehmer (1984) sought to determine whether bias against the Vietnam veteran exists. More specifically, they hypothesized that Vietnam veterans would be more likely than nonveterans to be discriminated against with regard to employment situations. Upon reviewing resumes that were identical with the exception of veteran status (i.e., some indicated a tour in Vietnam while others showed military service during the Vietnam era only), the manager subjects did not perceive differential qualifications but were more likely to recommend hiring the person who did not actually go to Southeast Asia and, furthermore, rated the former as having poorer mental health. The authors integrated the findings by suggesting that employers perceived the Vietnam veteran as psychologically unbalanced and felt that such psychological problems might have an effect on their work behavior.

Whether the negative images of veterans are specific to those who served in the 1960s and early 1970s is unclear. As cited in Business Week, a recent set of studies argues that once nonrandom selection factors are controlled, not only do Vietnam veterans earn less than nonveterans but the same holds for veterans of World War II (Blinder, 1989; Angrist, 1989; Angrist & Krueger, 1989). Daymont and Andriasani (1986) suggest that after initial frictional unemployment, today's veterans' income levels overtake civilian youth. A cursory evaluation of their data shows that the relationship between years since military service and annual income does not even approach statistical significance. Mangum and Ball (1989) report some transferability of military skills to civilian occupation, but regarding income former military members were not shown to have statistically higher annual earnings.

Beyond these studies, investigations of volunteer force enlisted personnel who separated from service are practically nonexistent. What is available are measures of today's separatees' attitudes toward the military, and these certainly show a disconnect from the hand the labor market dealt

Vietnam veterans. In fact, attitude studies have repeatedly found the lack of enduring negative and/or nonsocially acceptable attitudes in former military members. They are not more authoritarian or violence prone (Schreiber, 1979), though, compared to those still on active duty and civilians, they may be less likely to participate in our democratic system because of a decline in status once they leave the military (Davis & Taylor, 1987). They still believe in the military--they believe in a strong defense, and are supportive of their sons joining the military. Most exiting service members feel that the military was valuable to their self-growth. They report increased self-confidence, ability to work with others, responsibility to authority, leadership abilities, openness to new ideas, and personal independence. However, they report somewhat less positive impacts on job skill training (Barber, 1972; Kimmel, 1988).

So, the question remains: Is the military a great place to start? Though former enlisted personnel may believe that it is, empirical data do not provide a definitive answer. Further, with the exception of one study, empirical data are nonexistent on the subsequent effects of military service on low-aptitude personnel, the group for which the nation desperately seeks a solution. Beusse (1974) examined the economic returns to military service for Army Project 100,000 participants who separated in FY 1969 after completing 18 to 24 months of service and receiving an honorable discharge. He reported positive labor force effects, with veterans earning higher wages and being more likely to upgrade their level of education than nonveterans. Unfortunately, though Beusse controlled for race, education at the time of enlistment, age, and geographic location, the nonveteran sample was of lower aptitude in that the sample was culled from Selective Service records of rejected (for mental reasons) registrants. Furthermore, by restricting veterans to those with honorable discharges, the researcher introduced another bias in favor of veterans since "job quitters" and "troublemakers" were not eliminated from the civilian group.[3]

McNamara fervently believed that the military would be a victor in the War on Poverty. A recent interview (Sticht, Armstrong, Hickey, & Caylor, 1987, p. 191) with the former Secretary of Defense quoted him as follows:

> I believed that the below-30th percentile group that went through the military training would have substantial increases in lifetime earnings, as well as more responsible participation in our society, than the below-30th percentile group that did not go through military training.

Despite these prophesies, aside from the earlier study by Beusse (1974), there is no empirical corroboration. According to a former Marine Corps lieutenant colonel, who is now a columnist for the Chicago Tribune, there was little interest in assessing whether Project 100,000's objectives were met (Evans, 1986). He further adds (p.13):

> For those who survived the experience, did Project 100,000 provide a way out of the backwater of ignorance and unemployment? Impossible to tell. The Pentagon never conducted a survey of what happened after they left the military.

Though this is not quite true (cf., Beusse, 1974), research on the long term effects of military service on low-aptitude personnel is scarce. To remedy the lack of data on how low-aptitude youth fared as a result of being in the military, DoD sponsored a study of Project 100,000 and Potentially Ineligible veterans' life experiences, which has been dubbed VETLIFE. The following sections describe the methodology and results of this research endeavor.

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[3] A review of the available data in the Beusse (1974) report suggests sampling bias as well. The survey completion rate for whites was higher in the veteran group. Also, it is unclear from the report whether the statistical analyses were performed using the Project 100,000-weighted sample sizes, thus grossly inflating the power of the significance tests.

METHODOLOGY

Overview

To assess the residual effects of military experience on the post-service lives of low-aptitude personnel, surveys were administered to samples of participants of Project 100,000 (PK) and the Potentially Ineligibles (PI) from October 1986 through December 1987. Samples were previously selected from files maintained by the Defense Manpower Data Center (DMDC). Subsequently, extensive efforts were made to locate subjects. The primary locating sources were DMDC files (e.g., latest address on record, date of birth, social security numbers) and veterans' paper records housed at the National Personnel Records Center (NPRC). After appropriate leads were obtained, respondents were located primarily through telephone directory assistance. Additional locating methods included searching motor vehicle registries and postal sources, and obtaining Veterans Administration listings. In some cases, direct mailings and monetary incentives were used to solicit survey participation. (Details of locating efforts are provided in a later methodology subsection.)

After tracking potential respondents, the National Opinion Research Center (NORC) contacted those identified for participation in telephone or, in some cases (roughly 20 percent), face-to-face interviews. Extensive efforts were made to interview all viable sample members living within the United States. Before the actual survey was administered, a screening instrument was used to determine the survey eligibility of a potential respondent. For example, the "screener" verified respondents' gender, date of birth, and whether they had actually served in the military during the periods in question. After the data were gathered, they were edited, coded, and entered into machine-readable form by NORC. NORC compiled tapes containing the screening and survey data, and some additional demographic and character of service information (e.g., education at entry, term of enlistment). All personal identifiers (e.g., social security numbers, names, addresses) were purged from these files to assure confidentiality.

To serve as a baseline for comparisons, samples of nonveterans were drawn from the preexisting 1966 and 1979 base years of the National Longitudinal Surveys (NLS). These surveys, sponsored by the Department of Labor (DOL), had been identified as the best available sources of civilian comparison groups (Laurence, Heisey, Means, & Waters, 1985). The NLS surveys contain detailed information on labor market activity, labor market status, and other related variables (Center for Human Resources Research, 1986). The NLS 1966 coincided with the PK sample, containing data on men of military age. Likewise, there was considerable overlap between the young men interviewed as part of the NLS 1979 and the PI sample. Aptitude level could be discerned from both samples. In fact, the NLS 1979 contained actual AFQT scores as a result of a joint DoD/DOL study conducted in 1980, known as the Profile of American Youth (Department of Defense, 1982), in which the ASVAB was administered to the NLS sample as part of its first follow-up.

In short, from the NLS data it was possible to identify nonveterans matched to the corresponding group with military experience on the demographic variables of year of birth, race, education, and geographical area. The resulting data enable a comparison of the low-aptitude veterans and nonveterans in terms of economic and social variables (e.g., income, employment history, educational attainment, health, and the use of social assistance). Specific methodological details are provided below.

Veteran Samples and Civilian Comparison Groups

Project 100,000 (PK)

As a first step in determining the sample size for the Project 100,000 veterans survey, a base population had to be defined. Those meeting the following criteria were included in the population from which the sample was drawn:

- Brought in or admitted to service under relaxed aptitude standards (as opposed to medical or administrative), and specifically those scoring within AFQT Category IV or the 10th through 30th percentiles).
- Entered between July 1967 and June 1970, when the program was fully operational.
- Ages overlapped with the comparison group from the 1966 NLS (Year of Birth = 1941-1951).

These restrictions resulted in a base population of 207,093.

To draw statistically reliable conclusions about the post-service experience of these veterans, a final sample size of 400 persons was deemed appropriate (Krejcie & Morgan, 1970). A number of factors suggested that a larger initial sample would need to be drawn so that the final sample size would be as close as possible to the goal. Chief among these were the anticipated complications involved in locating respondents. For instance, a large number of cases in the Project 100,000 file had no address information at all, and only 35 percent of the cases had complete information. Furthermore, even when these data were available their accuracy was suspect, since the file had not been updated in over 10 years. Conservative estimates were maintained despite augmented locating information (e.g., NPRC and other record searches). Finally, it was assumed that a certain percentage of those respondents actually contacted would refuse to take part in the survey. The impact of these variables can be summarized as follows:

Initial Sample	**Available Locating Information**	**Estimated Located Cases**	**Estimated Response Rate**	**Target Sample**
1,395 X	48% = 670 X	80% = 536 X	75% =	400

Based on these assumptions, a sample of 1,395 cases was selected by DMDC. This sample was divided into several smaller replicates. The replicate sampling technique is used when there is uncertainty concerning the probability of locating individuals in the target sample (Bruce Spencer, Director, Methodology Research Center, NORC, personal communication, May 1988). This procedure involves drawing smaller random samples from the total sample. Location efforts are then carried out focusing on individuals in the first replicate. If the final target sample size is achieved, the remaining replicates are discarded. However, if the first replicate is exhausted before the desired sample size is met, the next replicate is used. This process continues until a satisfactory "n" has been achieved.

Since each replicate is randomly drawn, and therefore mirrors the population of interest, it can be assumed that there is no bias in the final sample beyond "luck of the draw" and that which is associated with failure to locate. In this case, eight replicates were drawn from the 1,395 cases; the first included 700 individuals, the next two contained 100 cases, and the final five had 99 cases each.

DMDC drew both the overall and replicate samples. The location efforts, described above, began with the first three replicates (n = 900). Address information was sought for cases in the second and third replicates in case a sufficient number of completed interviews could not be obtained from the first. A summary of the disposition of the location/interview efforts for the first replicate is as follows:

Cases in first replicate	700
Cases not located	323
Non-interviews (deceased, mentally incapacitated, out of country, out-of-scope, final refusals)	66
Completed interviews	311

The final sample for the Project 100,000 portion of the study was 311 cases. Both time constraints (i.e., the expiration date for survey clearance from the Office of Management and Budget was December 31, 1987) and budget considerations made it impossible to continue locating efforts to obtain the 400 cases desired. Given that the size of the target sample was somewhat conservative, the loss of reliability associated with the smaller sample size was negligible.

Table 1 presents comparisons of the final sample with the overall Project 100,000 population on demographic variables of concern in this study. The resulting sample very nearly mirrors the Project 100,000 population in terms of education, aptitude, race, geographic region, and year of birth. In fact, the percentage difference never exceeds two points.

Table 1

Demographic Comparison of Project 100,000 Population and Sample

Variable	Percent	
	Population	Sample
	(N=207,093)	(n=311)
Education		
High School Graduate/GED	47	47
Nongraduate	52	53
Unknown/Other	1	0
AFQT Category[a]		
IVA	3	3
IVB & C	97	97
Race		
Black	36	34
Nonblack	64	66
Geographic Region		
South	35	36
Non-South	65	64
Year of Birth		
1941-1947	33	34
1948-1949	43	44
1950-1951	24	22

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[a] Category IV is often broken down into three subgroups, as follows:
IVA--percentile ranges 21 to 30;
IVB--percentile ranges 16 to 20; and
IVC--percentile ranges 10-15.

National Longitudinal Survey (NLS) 1966

A key concern was to identify a suitable comparison group of nonveterans to assess the impact of military service on post-service life. As described earlier, the National Longitudinal Surveys provided such a group. The NLS was undertaken in the mid-1960s by the Center for Human Resource Research of the Ohio State University under contract to the Department of Labor to provide data on the employment and financial history of four groups of individuals. The group of particular relevance to this project comprised young men 14 to 24 years old at the time the first survey was conducted in 1966. Follow-ups were carried out periodically through 1981. The data are useful because they address the central areas of concern for this study (i.e., employment history, income), and because the age ranges overlap those of Project 100,000 participants (years of birth: 1941-1951). A specific question pertaining to whether the respondent ever served in the Armed Forces was asked in each wave of the NLS, allowing for the exclusion of those with military experience from the civilian control group.

Finally, although AFQT scores are not available for this cohort, the database contains other aptitude information from the school files of respondents. Since sample members did not have any one aptitude measure available on their records, the various tests employed by the respondents' school districts were pooled and the results reported in deciles. Individuals scoring from the 10th through the 29th percentiles were considered the aptitude-equivalents of participants in Project 100,000. When the NLS sample is restricted to lower aptitude individuals born between 1941 and 1951 who never served in the military and who were included in the 1981 follow-up, the sample size is 199.

Though the military and civilian samples were selected from the same birth cohort and aptitude range, further demographic equivalence was neither assumed nor expected. To "equate" the PKs and low-aptitude NLS civilians, a weighting scheme was devised to render them comparable on key demographic dimensions (i.e., education, race, geographic region, and year of birth). The procedure and population reference for the weights is described in a subsection below.

Because the last follow-up for the NLS 1966 was in 1981, it was necessary to adjust the financial and employment status data for the two groups to provide a common base. That is, adjustments were made to income figures obtained in 1981 so as to make them comparable to income data reported by veterans in 1986 and 1987. A methodology for doing this employs Department of Labor and Census Bureau income data, including cost-of-living variations between the two periods. The details of these economic adjustments are provided following the description of the second military and civilian samples below. The impact of this time difference also has to be taken into account when examining other variables. In some cases analyses were limited to groups overlapping in age at the time of the interviews[4]. This was done for such characteristics as number of children, marital status, and so on. The decision to restrict birth years was based upon a common statistical practice of determining whether statistically significant differences were found between age and the variable in question.

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[4] NLS respondents' ages ranged from 30 to 40 at the time of the 1981 follow-up, while PK respondents interviewed in 1986 were 35 to 45 and those interviewed in 1987 were 36 to 46. Therefore, for some variables, responses were examined for those between the ages of 35 to 40. For the NLS this restricted the sample to birth years 1941 to 1946. For the PKs, birth years were restricted to 1947 to 1951.

Potentially Ineligibles (PI)

The second veteran population comprised FY 1976 through 1980 AFQT Category IV males, born between 1957 and 1962 (N=339,051). It should be noted that the actual "erroneous enlistees" from this period included AFQT Category III youth as well. This resulted from the fact that the Services set their own enlistment aptitude standards. For example, the Air Force's standards are typically higher than those of the Army. In addition, these standards vary by education level. That is, in keeping with their higher service attrition rates, nongraduates and General Educational Development (GED) high school equivalency credential holders are required to meet higher aptitude standards than traditional high school diploma graduates. Furthermore, cutting scores for the enlistment of nongraduates are usually above the Category IV range. Again, because of the emphasis on low-aptitude recruits, those outside Category IV were not considered as appropriate subjects for the study.

One further refinement of the PI sampling frame was the inclusion of only individuals with known education levels at enlistment.[5] The PIs were stratified by education prior to sampling in anticipation of performing separate cost/benefit analyses by education. More specifically, two strata--high school graduates (N=228,450) and nongraduates (N=110,601)--were created and random samples were drawn from each. Data analysts typically group GEDs with nongraduates because of their similar military performance. However, for the present study, equivalency certificate recipients were considered a subset of the high school graduate stratum since the labor force behavior of GEDs is more similar to this education group (Malizio & Whitney, 1984).

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[5] The percentage of "unknown" education cases in the DMDC files is extremely low--e.g., .00002 percent among FY 1978 accessions.

Random samples of 712 high school graduates and 712 nongraduates were drawn to yield the representative targets of 350 cases from each education stratum as determined on the basis of the Krejcie and Morgan (1970) method for determining sample sizes. To approach the target of 700 total respondents, it was necessary to start from a sample size of 1,424 to compensate for the lack of locating information, actual location rates, and response rates as shown by the formula below.

Initial Sample		Available Locating Information		Estimated Located Cases		Estimated Response Rate		Target Sample
1,424	X	73% = 1,038	X	90% = 934	X	75%	=	700

Five replicate samples were created from the 1,424 cases. The first replicate contained 1,020 individuals and each of the remaining were random subsamples of 101 cases each. NPRC records and other locating sources were searched for additional locating information on the first replicate. Sample members were then located and administered the screener. If they were eligible and agreed to participate, the actual survey proceeded.

Interviews with the PI sample, conducted from November 1986 through December 1987, resulted in 326 completed cases from the first replicate. The disposition of the remaining sample members can be summarized as follows:

Cases in first replicate	1,020
Cases not located	511
Non-interviews (mentally incapacitated, out of country, out-of-scope, final refusals)	183
Completed interviews	326

Though the target of 700 was not achieved, the final sample size was quite sufficient for unbiased analyses. As detailed below, limitations on the civilian control group negated plans to conduct separate comparisons by education, so a single sample of approximately 350 cases would be suggested by Krejcie and Morgan (1970).

Table 2 provides a description of the PI population and net sample in terms of the key demographic variables. As with the PKs, PI sample data closely corresponded to the intended sampling frame.

NLS 1979

The control group for the Potentially Ineligibles was drawn from the 1979 National Longitudinal Survey of Youth Labor Force Behavior. Low-aptitude young men of prime military age (i.e., birth years 1957 through 1962) but without military experience were identified from this national probability sample. Since the ASVAB itself was administered as part of the first NLS follow-up (in 1980), the nonveteran comparison group could be sorted into AFQT subcategories concordant with the PIs-- IVA, IVB, and IVC. The 1985 follow-up of the NLS 1979 cohort was the latest available at the time of the VETLIFE project. The resulting unweighted sample of 879 civilian low-aptitude men aged 23 to 28 (in 1985) was made up predominantly

Table 2

Demographic Comparison of Potentially Ineligible Population and Sample

Variable	Percent	
	Population	Sample
	(N=339,051)	(n=326)
Education		
High School Graduate/GED	67	54
Nongraduate	33	46
AFQT Category[a]		
IVA	53	53
IVB	34	37
IVC	13	10
Race		
Black	41	36
Nonblack	59	64
Geographic Region		
South	42	45
Non-South	55	55
Other Unknown	3	0
Year of Birth		
1957-1958	34	36
1959-1960	43	42
1961-1962	23	22

[a] Category IV is often broken down into three subgroups, as follows:
IVA--percentile ranges 21 to 30;
IVB--percentile ranges 16 to 20; and
IVC--percentile ranges 10-15.

of nongraduates originally (65 percent).[6] The AFQT Category IV military veteran group, on the other hand, comprises overwhelmingly graduates. Because of this dissimilarity, and original intentions to conduct separate analyses by education, initial plans called for a supplemental sample of civilian high school graduates. However, it was discovered that, unfortunately, the supplemental sample in mind -- DoD Student Testing Program participants -- was essentially a convenience sample that could have potentially biasing effects on the study. Furthermore, guarantees of confidentiality precluded locating DoD high school sample members for participation in VETLIFE. To compensate for the divergent education proportions, and other demographic incongruities, a weighting scheme was devised to equate the overall PI sample and NLS low-aptitude nonveterans on key demographic variables, including education, race, year of birth, and geographic region. (Again, details of the weighting strategy appear below.)

One final issue concerns adjustments to the NLS 1979 (1985 follow-up) in terms of age and time discrepancies from the PI sample. The 1985 date of interview for the civilian comparison group in contrast to the 1986/1987 PI survey time frame does not represent as serious a time lag as that between the NLS 1966 (1981 follow-up) and the PK survey. Nonetheless, adjustments were made prior to conducting analyses. These adjustments are described following a discussion of the instrument development.

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[6] High school graduation status as of 1980 was used to assign education category.

Instrument Development

The interview protocol for the Project 100,000 sample members and the Potentially Ineligibles was structured to provide data that would be comparable with the 1981 follow-up of the 1966 NLS and the 1985 follow-up of the 1979 NLS, respectively. Specifically, the focus was on those sections of the NLS dealing with training, employment, and income experience. Other items were added to obtain information on veterans' military experience. The nine sections of the instrument can be summarized as follows:

1. Education and training
2. College experience
3. Military experience
4. Current labor force status
5. Previous work experience
6. Marital status
7. Assets and income
8. Geographic mobility
9. Effects of military experience and demographics

The original instruments were developed based on relevant items selected from the appropriate NLS. Some alteration of items was necessary to make them suitable for a "one-shot" telephone interview methodology and to update references to time frames (e.g., income in 1986). The instruments were submitted to the Office of Management and Budget (OMB) for approval. When this was obtained, they were pretested on small convenience samples of PK and PI veterans identified as living in the greater Chicago area (where NORC is located). Overall, few problems were found with the instruments, although some items were shortened to keep the interview within the 30-minute time limit required under the OMB clearance.

Locating Respondents

As noted earlier, locating Project 100,000 and Potentially Ineligible participants after approximately two and one decades, respectively, proved to be difficult. With simple random samples of these military groups (i.e., 700 PKs and 1,020 PIs from the first replicate), locating efforts proceeded as follows.

The Defense Manpower Data Center selected random samples of 1,396 Project 100,000 (PK) participants and 1,424 Potentially Ineligible (PI) cases. DMDC databases were searched to retrieve demographic data (i.e., last address, social security number) to begin the effort to locate the selected veterans. The data on these cases from the 1960s and early 1970s were of poor quality, resulting in a 63 percent nameless rate for PKs and a 17 percent rate for PIs. There were also some discrepancies regarding current military status for approximately 9 percent of the cases in both samples.

The National Personnel Records Center maintains all existing paper records of discharged personnel for the U.S. Armed Forces, and so was a potentially valuable resource in finding those individuals selected for this study. It was found, however, that documentation within the files differed substantially. Personnel History Questionnaire (DD 398 or DD 1966), Certificate of Discharge (DD 214), Enlistment Agreement (DD 4), Record of Induction (DD 47), and the National Agency Request Check (DD 1584) were the primary documents abstracted and copied. These forms contain information on the subject's family, residence, enlistment, discharge, employment, and education. Other relevant documentation (e.g., birth certificates, Veterans Administration (VA) forms, requests for military records and letters with the subject's address) that would assist in the locating effort was also copied. Approximately 95 percent of the PK case records and over 90 percent of the PI case records were located at NPRC. The greatest benefit of the NPRC effort proved to be the identification of those cases without names attached to them on the DMDC files; approximately 90 percent of such cases were recovered at NPRC.

All abstracted records and information were sent to NORC, which conducted all activities needed to locate and interview the selected veterans. The VETLIFE study interviewers were trained to use the information abstracted from DMDC and NPRC as efficiently as possible. Further training was conducted to familiarize the interviewers with the questionnaires themselves (e.g., skip patterns) and to show them how to follow up on possible location leads. NORC also has on staff an extensive network of field interviewers, which was used to augment the location effort when phone interviewing methods were exhausted. All the information abstracted from DMDC and NPRC was reviewed by the clerical and interviewing staff prior to beginning the locating effort.

Initial locating attempts consisted of calls to directory assistance operators to obtain phone numbers for respondents and/or their relatives from the data abstracted from DMDC or NPRC. The information, however, tended to be out of date. Interviewers pursued all leads even if phone numbers were the only possible links to someone in the family. In addition to phone contacts, NORC sent advance letters to respondents or their families for whom address information was known. The letters described the purpose of the study and contained a phone number for respondents to call. When NORC recontacted the households to which the letters were sent, it was found that these persons were seldom in touch with the respondent. It was then decided to offer a $5, $10, and then $25 incentive to call in to set up an interview, and postcards were sent to all possible addresses of respondents. With the $25 incentive, the call-ins increased dramatically.

In addition to phone contacts, lists of names were sent to the Department of Motor Vehicles in states in which respondents were clustered. This approach proved problematic in that search fees were required in some states and turnaround time in some cases was as long as two months.

For those respondents who were identified as being on active duty or in the reserves, military worldwide and base locators were employed. This method also proved to be cumbersome, as each branch of the Armed Forces has separate locator sources for active and reserve forces. The majority of respondents contacted were on active duty stationed in the continental United States. For those stationed overseas, establishing an address or a return date to the States was difficult.

One of the last attempts to locate respondents involved using the Veterans Administration's two extensive databases of those veterans receiving disability compensation and educational benefits. All names that were still unlocated or were pending were forwarded to the VA record center in Austin, Texas. A computer match was conducted of all names in both databases and the information was forwarded to the VA Hospital in Hines, Illinois, which then provided relevant information.

Despite the successes in finding the records of those selected veterans in NPRC files, the information contained in those records was often of poor quality. This presented a major obstacle at the outset of the location effort. Even with the multimethod approach, the mere fact that the records were 20 to 30 years old presented great obstacles to the attempt to locate veterans.

Since vanishing veterans indeed posed a problem, some bias is possible in the resulting PK and PI samples. Though the demographic characteristics (i.e., age, race, region, education, and aptitude) of the PK and PI samples coincided with the proportions in their sampling frames, it is likely that nonlocated veterans possess characteristics related to some of the dependent variables (e.g., income, employment status, education). The true underclass among low-aptitude veterans may be underrepresented. That is, one might speculate that the homeless, the institutionalized, those who remained overseas, the extremely transient, and so forth were among those not captured for survey participation. However, the NLS nonveteran samples suffer from the same biases (though perhaps to a lesser extent, given yearly or biennial tracking) rendering fair comparisons between the veteran and nonveteran groups.

For the PK sample, the location rate was 54 percent. For the entire NLS 1966 sample of young men, 65 percent were reinterviewed in 1981; the reinterview rate for the low-aptitude subset, however, was only 52 percent. Half of the PI sample was located, compared with a reinterview rate of 86 percent for the (total male and female) NLS 1979 sample in 1985. Since the aptitude information was not added to the NLS 1979 sample until 1980 (i.e., the first follow-up), determining the proportion of Category IV male youth included in the base year and reinterviewed in 1985 is problematic. The difficulty in locating PI sample members may be partly attributable to the relatively high numbers still serving in the military (particularly outside the continental U.S.) or recently released. The literature indicates that locating military members, minorities, those of low socioeconomic status, those without children, youth, and the undereducated is particularly troublesome (Call, Otto, & Spenner, 1982). Since the low-aptitude samples might be considered a somewhat homogeneous amalgamation of many of these characteristics, nonlocation bias might tend to be of a similar magnitude for veterans and nonveterans.

Once a person was located, the first step in conducting interviews was to ensure that the person contacted was the individual identified on DMDC files. This was done by asking for the respondent's social security number, date of birth, and sex, and by verifying that the respondent served in the military during the period in question. Current status vis-a-vis the military (separated, active duty, reserve) was also ascertained, as was educational status at the time of enlistment. A series of interviewer checks was then conducted to arrive at the final determination concerning the identity of the respondent.

When the eligibility of the individuals was confirmed, they were asked if they had the time to take part in the study at that point. Otherwise an appointment was made to conduct the interview at a later time.

Estimating Income Differentials

One of this study's key questions is whether military service has an impact on the long-term economic well-being of low-aptitude veterans as compared to low-aptitude personnel who never joined the military. For this reason, a variety of income questions were asked in the VETLIFE surveys to correspond with NLS questions, covering such sources as welfare, interest income, loans from family members, and so forth. Of primary interest here, however, is earned income--that which is received directly as reimbursement for services rendered.

One difficulty in comparing the income levels of veterans and nonveterans stems from the fact that the data sources for the two groups are from different time periods. In all cases, respondents were asked to provide income figures for the preceding year. The majority of PKs and PIs were interviewed in 1986, therefore they reported 1985 income. The small proportion interviewed in 1987 provided 1986 information. In contrast, the civilian comparison group for the PKs--the NLS 1966--was last interviewed in 1981. The PI comparison group was drawn from the NLS 1979, in the 1985 follow-up. Therefore, the civilian income figures reflect either 1980 or 1984 earnings. A method was needed for equating the 1985/86 income data given by veterans and the 1980/84 data provided by their civilian comparison groups.

Since the bulk of the military income data is referenced to 1985, it was decided to make this year the base (the year to which the others would be adjusted). The Census Bureau's Current Population Survey (CPS) annual publication of consumer income (Series P-60)[7] provided the most comprehensive database for making the necessary adjustments. This publication supplies income figures for 5-year age cohorts (i.e., ages 25-29, 30-34, etc.) over the range of years of interest in the present study. Furthermore, these data are provided separately for high school graduates and nongraduates, allowing control for both age and education, factors likely to have an impact on income.[8]

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[7] Money Income of Households, Families, and Persons in the United States (1979-1986); Current Population Reports, Consumer Income, Series P-60, various numbers. U.S. Department of Commerce, Bureau of the Census, Washington, D.C.

The necessary CPS-based adjustments were made to the 1980 income data by calculating the percentage change in dollar income for males, within each of the age/education groups, from 1980 to 1985. This percentage was then applied to the actual income figures obtained from NLS 1966 participants in 1981 to adjust them to 1985 levels. This was done in such a way as to compensate for respondents' age differences as well as time-of-interview differences. That is, those individuals who were 30 to 34 at the time of the 1981 interview received an adjustment factor so as to make their income levels comparable to 35- to 40-year-olds in 1986. In this way, differences in earnings as a function of age were also controlled.

A similar procedure was used to adjust the 1984 and 1986 income data to the 1985 baseline. However, in these cases relying on a single year's change might provide less than reliable results. That is, it is possible that fluctuations between one year and the next do not accurately reflect real changes in earnings based on the passage of time, but rather could be artifacts of some circumstances specific to those particular years. For this reason regression analyses were performed using CPS data, resulting in a trend line for income for each of the age groups over the years 1979-1986. The percentage change between 1984-1985 and 1986-1985 was then calculated based on these results and applied to the income data for the appropriate groups to bring about the adjustment to the 1985 baseline.

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[8] One potential difficulty with the education dimension concerns the possibility that the nonveterans increased their level of education since their last interview. Obviously, for the PI comparison group (last interviewed in 1985) this is not a major concern. However, data for civilians in the NLS 1966 were last obtained in 1981, presenting the possibility that additional education was received. For the purposes of this study, it was assumed that this was not the case. This assumption is reasonable given that, for nongraduates, the age at last interview (30-40) was considerably higher than the average for those completing an equivalency program (i.e., GED). For graduates, the concern that significant numbers may have attended college during this period is lessened by the fact that the individuals of concern are in the below-average aptitude categories. This would suggest that the likelihood of their completing one or more years of college is small.

Sample Weighting and Factors Affecting Sample Precision[9]

This subsection describes the methodology for calculating the survey sample adjustment weights and factors affecting the precision of VETLIFE sample estimates. Additionally, the concept of effective sample size and the part it plays in testing statistical significance is discussed.

Survey sample weights were calculated for each veteran and nonveteran pair of samples to adjust each to the reference population (Kish, 1965) of all youth in their corresponding birth cohort. Additional adjustments were then computed for each sample to reflect the effective (i.e., Simple Random Sample or SRS) rather than nominal size of each sample. These weights were used during statistical significance testing.

Survey sample design and design-related factors such as sample weighting adjustments affect the precision of sample estimates. For example, departures, such as clustering, from an SRS design generally increase the variance of sample parameter estimates relative to that which would be expected from an SRS design. In addition, the use of sample adjustment weights can affect the precision of estimates. If sample adjustment weights are highly variable, the variance of sample estimates becomes inflated over that expected from a self-weighting design of equal size. This section discusses the calculation and magnitude of VETLIFE design effects.

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[9] This section was prepared by Michael Wilson of Westat, Inc..

Neither the military veteran (PK and PI) nor the nonveteran NLS samples constitute self-weighting samples of individuals who are members of the target (i.e., total) youth population. As a consequence, adjustments, with different weights for various subdomains of the population that have been sampled, were necessary to produce unbiased parameter estimates. The sample adjustment weights computed for use with the VETLIFE samples were used to provide estimates of statistics that would have been obtained if the entire sampling frame had been surveyed. The VETLIFE weighting methodology was implemented to accomplish the following objectives:

- To bring sample data in line with population proportions;
- To minimize biases arising from the fact that nonrespondents may differ from survey respondents;
- To reduce variances of estimates by using auxiliary information that is known with a high degree of accuracy in the estimation procedures; and
- To adjust nominal sample sizes to reflect effective (i.e., SRS) sample sizes.

Poststratification

Poststratification was used to accomplish the first three adjustment weighting objectives. Subsequent unequal weighting effect (also termed design effect) calculations were used to scale the poststratification weights to produce effective sample sizes for statistical significance testing. Poststratification serves to adjust PK and PI sample counts (both veteran and nonveteran) and NLS estimates of the total population by birth cohort, race/ethnicity, education, and geographic region.

Original sample design specifications, nonresponse, and inadequacies in the VETLIFE sampling frames were expected to vary by population groups and therefore potentially distort sample distributions. Poststratification compares the distribution of the population and the samples across selected variables and computes sample weights to ensure that sample proportions on key demographic characteristics closely approximate known population proportions.

There were differences in the poststrata formed for the weighting of the PK and PI samples. These differences will be documented following a discussion of the poststratification methodology as applied to the PK samples.

Four variables were used to construct poststrata for the PK veteran and nonveteran sample data. Table 3 lists the variables and categories used in the poststratification of the PK samples. Poststratification by these variables was necessary to assure that sampling proportions on these key variables were similar to population proportions and to allow comparisons across the veteran and nonveteran samples. Table 4 displays the poststrata cells formed for the weighting adjustment of the PK samples.

There is a practical problem in calculating poststratification weights either when the number of crosstabulation cells is very large or when sample sizes are small. Some of the poststrata cells may contain no sampled individuals and others may contain only a small number. To avoid problems arising from small sample sizes within cells, raking (also termed iterative proportional fitting) was used to compute the adjustment weights for the poststrata. Raking is an iterative procedure that estimates weights so that weighted sample estimates equal population controls for the marginals of the

Table 3

Variables Used in Forming Project 100,000 (PK) Poststrata

Variable	Categories
(1) Birth Cohort	2 categories (1941-1947, 1948-1951)
(2) Race/Ethnicity	2 categories (Black, Nonblack)
(3) Education	2 categories (High school graduate, Nongraduate)
(4) Region of Birth	2 categories (South, Non-South)

Table 4

PK Poststrata Cells

		ETHNICITY			
		NONBLACK		BLACK	
		EDUCATION			
BIRTH COHORT	REGION	HSG	NHS	HSG	NHS
1941 - 1947	SOUTH				
	NON-SOUTH				
1948 - 1951	SOUTH				
	NON-SOUTH				

various poststrata, without ensuring this quality for each of the crosstabulation cells. That is, raking will ensure that weighted marginal distributions of birth cohort, race/ethnicity, education, and geographic region will agree with known population marginals, but raking does not attempt to achieve an exact correspondence between sample and population values in the cells of the crosstabulation.

The PK poststratification weights W_{abcd} were computed so that:

$$\Sigma_{bcd} W_{abcd} \text{ x } n = N_{a...}, \; a = 1,2_{\text{= birth cohort;}} \tag{1}$$

$$\Sigma_{acd} W_{abcd} \text{ x } n = N_{.b..}, \; b = 1,2_{\text{= race/ethnicity;}} \tag{2}$$

$$\Sigma_{abd} W_{abcd} \text{ x } n = N_{..c.}, \; c = 1,2_{\text{= education;and}} \tag{3}$$

$$\Sigma_{abc} W_{abcd} \text{ x } n = N_{...d}, \; d = 1,2_{\text{= geographic region}} \tag{4}$$

To simultaneously solve equations (1) through (4) for the poststratification weights, the raking procedure proceeds iteratively by proportionately weighting poststrata cell values so that each of the equations is satisfied in turn. Each new iteration begins from the results of the previous step and continues until all equations are satisfied to the degree of precision required. This procedure yielded adjustment weights for both the veteran and nonveteran PK samples.

The same four variables used in the formation of PK poststrata were used for the PI veteran and nonveteran samples. The categories of these variables, however, differed somewhat from those used for the PK poststrata. Table 5 lists the variables and categories forming the PI poststrata.

For the PK and PI samples, the 1966 NLS (1981 follow-up) and 1979 NLS (1985 follow-up), respectively, were used to provide poststrata population counts.

Table 5

Variables Used in Forming Potentially Ineligible (PI) Poststrata

Variable	Categories
(1) Birth Cohort	3 categories (1957-1958, 1959-1960, 1961-1962)
(2) Race/Ethnicity	2 categories (Black, Nonblack)
(3) Education	3 categories (High school graduate, Nongraduate, Unknown)
(4) Region of Birth	2 categories (South, Non-South)

Final poststratification weighting adjustments for the PK veteran sample were trimmed to reduce variance inflation due to highly variable adjustment weight values (the PI samples did not require this adjustment). Sample poststratification weights were first examined for unacceptably large values and the cells containing these weights identified. The weights were then constrained to be equal to a set value and the difference between the original and constrained weight was then distributed proportionately among the remaining weights in the poststratum.

This approach produced smaller variances at the price of introducing some unknown bias due to underrepresentation of some poststrata. (The bias depends on unknown factors such as nonresponse.) Since only a small proportion of total cases was affected, it is assumed that the bias is negligible in comparison to the gains obtained from reducing the sampling variances. Several iterations of this procedure were required to produce weights having minimal impact upon both variance and bias.

Factors Affecting the Precision of VETLIFE Sample Estimates

A large number of factors affect the precision of sample estimates. The size of the sample drawn is perhaps the most obvious factor. As sample sizes increase, so does the precision of survey estimates. This section discusses the impact of design and unequal weighting effects on VETLIFE sample precision. Additionally, the concept of effective sample size as used in the performance of statistical significance testing is discussed.

Design Effects. Departures from an SRS design, such as clustering, affect the variance of sample estimates. Generally, the effect is to increase the variance of estimates over that which would be expected from an SRS design of equal size. Design effects (DEFF) are defined as:

$$\text{DEFF} = \sigma^2 \text{complex}/\sigma^2\text{SRS} \qquad (5)$$

where σ^2 complex is the variance of a parameter estimate from a complex survey and a σ^2 SRS is the corresponding variance from an SRS design. Design effects greater than 1 indicate the proportional increase in variance due to complex sample design. For example, a design effect of 1.38 means that variance estimates for a complex sample are 38 percent higher than those that would be obtained from an SRS of the same size.

Design Effects Due to Sample Design. Since the VETLIFE veteran samples were drawn using simple random sampling, there is no expected design effect due to departures from SRS. The VETLIFE nonveteran samples, however, were initially drawn using clustering and other departures from an SRS design (see Frankel & McWilliams, 1981). The relationship between the variances of cluster (σ^2 cluster) and simple random samples (σ^2 SRS) is given by:

$$\sigma^2 \text{ cluster} = \sigma^2 \text{ SRS X } [1 + p(\bar{n} - 1)] \qquad (6)$$

where $\bar{n}$ is the average number of respondents per cluster and p (rho) is the intraclass correlation among respondents within clusters. The quantity $[(1 + p(\bar{n} - 1)]$, then, is the PK and PI nonveteran sample design effect due to clustering.

Extensive evaluation of potential design effects due to clustering led to the conclusion that, for the nonveteran samples in the follow-up waves, this effect was greatly diminished.[10] Among other factors, the effects of clustering are determined by the intraclass correlation. If this correlation among respondents within clusters were low, then design effects could be expected to be low, all else equal.

Discussions with experts in longitudinal survey design and with analysts familiar with the successive waves of NLS data both stressed that the intraclass correlation among respondents in clusters would be likely to diminish rapidly over time as they naturally dispersed from their geographic clusters.[11] Because each of the nonveteran analyses considered data collected 5 or more years following the formation of initial clusters, design effects due to sample selection procedures were considered negligible.

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[10] Randall Olsen, Professor of Economics, The Ohio State University (personal communication). An additional practical consideration was the fact that, according to Dr. Olsen, information needed for the actual calculation of clustering effects is unavailable.

Design Effects Due to Unequal Weighting Effects. Although VETLIFE design effects due to sample design were assumed to be small, another design-related effect did demonstrate a significant impact on the precision of sample estimates. This was the inflation in variances due to unequal survey sample weighting adjustments (unequal weighting effect or UWE). The original sample frames, selection methodologies, and the differential nonresponse of sample subgroups each contributed to large variations in sample adjustment weights. Effects due to unequal weighting were calculated as:

$$UWE = \frac{n \times \sum W^2_{abcd}}{(\sum W_{abcd})^2} \tag{7}$$

(Kish, 1965) where n is the sample size and the W_{abcd} are the poststratification adjustment weights assigned to individual respondents. Calculation of the unequal weighting effects demonstrated the large impact that differential sample selection and consequent weighting had upon the precision of VETLIFE sample estimates. The interpretation of UWE is the same as that presented above for DEFF. That is, values greater than 1 indicate the proportional increase in variance due to unequal poststratification weights. Table 6 presents the design effects due to unequal weighting by sample groups.

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[11] In discussions with analysts at Ohio State, it was related that design effects for the 1981 wave of the 1979 NLS had dropped significantly, due to the fact that respondents had moved out of their original geographic clusters. It was felt that, as time progressed, design effects due to clustering would continue to diminish.

Table 6

Design Effects Due to Unequal Weighting by Sample Group

Sample Group	Design Effect
PK	
Veterans	1.898
Nonveterans	1.355
PI	
Veterans	1.324
Nonveterans	1.355

Effective Sample Size. The relationship between precision and sample design-related factors summarized by unequal weighting effect highlights the related concept of effective sample size. The effective sample size of a complex survey is the corresponding SRS sample size required to reproduce the same degree of precision in sample estimates. Effective sample size (ESS) is defined here as:

$$\text{ESS} = \frac{\text{Nominal Sample Size}}{\text{UWE}} \qquad (8)$$

where the nominal sample size is merely the n of the complex sample. If, for example, the sample n is 1,000 and the design effect is 1.38, then the effective sample size for analysis is 1,000/1.38 = 725. That is, the effective sample size in terms of the precision that would be obtained from an SRS design is 725, or somewhat less than three-fourths of the nominal sample size. Table 7 presents the nominal and effective sample sizes for the PK and PI samples.

Table 7

Nominal and Effective Sample Sizes by Sample Group

Sample Group	Nominal Size	Effective Size
PK		
Veterans	311	164
Nonveterans	199	147
PI		
Veterans	326	246
Nonveterans	879	649

Poststratification adjustment weights were scaled to reflect effective sample sizes for the performance of statistical significance tests using standard statistical software. The scaling of adjustment weights retained population proportions as reflected in initial weighting adjustments. This methodology closely follows that adopted by McWilliams and Loft (1982) in their analysis of NLS data and that suggested by Fellegi (1980) in his discussion of approximate chi square tests for complex samples. It should be noted that to ensure a more uniform and less confusing data presentation, an "average" design effect (in contrast to design effects specific to the sample on each dependent variable) was calculated. The resulting effective sample sizes, therefore, tend to be conservative (i.e., somewhat smaller than necessary).

Nontechnical Interpretation of Weights

In short, four sets of weights were generated for each of the veteran/nonveteran sample pairs. The first set of weights is SAMPWGT and SAMPADJ, applied to the veteran and nonveteran groups, respectively. SAMPWGT demographically adjusts the PKs and PIs to reflect the proportions found in their corresponding total male youth populations. For example, the PK sample was weighted in such a manner as to mirror the 1966 NLS total (i.e., all aptitude levels, regardless of military status, within birth years 1941-1951) male youth population in 1981 in terms of age, race, education, and geographic region. Similarly, the PIs were adjusted to approximate the 1985 follow-up of the 1979 NLS total male youth population along the same demographics. Different sets of SAMPADJ weights were applied to the NLS 1966 (1981 follow-up) and NLS 1979 (1985 follow-up) low-aptitude, nonveteran subsets, bringing them in line demographically with the corresponding total male NLS populations.

Thus, with SAMPWGT and SAMPADJ applied to the appropriate veteran and nonveteran low-aptitude groups, demographic equivalence was achieved. For statistical comparisons, however, a second set of weights -- EFCTWGT and EFCTADJ -- was employed to yield effective veteran and nonveteran sample sizes. These weights maintain the above demographic equating but adjust for the effects of unequal weighting, thus reducing the sample sizes.

It is important to keep in mind that although the weights permit demographically controlled PK/NLS and PI/NLS comparisons, they do so at the expense of transforming the component samples. That is, the samples no longer reflect low-aptitude veterans or nonveterans but similar demographic portions of the total youth population. Generalizations from these comparisons to the PK and PI populations must, therefore, be tempered somewhat.

Though weights were generated to equate the veteran and nonveteran samples on key demographic variables, selectivity bias cannot be ruled out completely. It is possible that the samples differ in regard to nonobservable characteristics such as socioeconomic status (SES) or various psychological dimensions. Controlling for aptitude, race, education, and geographic region, reduces the likelihood of SES differences. Further, research has shown that although military recruits tend not to come from the highest or lowest echelons, they are quite similar to the general population in terms of SES (Boesel, 1989; Congressional Budget Office, 1989; Cooper, 1977).

Statistical Analyses

Though a rather complicated weighting strategy was employed, the analyses were rather simple and straightforward. The basic research question to be answered was: Does military service have a positive impact on the subsequent lives of low-aptitude recruits compared to a similar group of low-aptitude nonveterans? In other words, is there any evidence that Project 100,000 or the ASVAB misnorming were successful in uplifting the disadvantaged? Income and employment status served as the primary assessment factors. However, veterans and nonveterans were compared on a variety of other variables (e.g., education, training, family status, occupation) so as to find out "where" military service might show its effect or how widespread and reliable it is.

The emphasis for this study was not on ascertaining the exact values for the military and nonmilitary sample members regarding the dependent measures. Rather, the analyses attempt to explicate, simply, whether the groups are different. That is, for example, the intent was not to provide a firm assessment of just how much money low-aptitude veterans and nonveterans made in a given year or what variables can be used to predict earnings. Instead, the tabular material indicates whether, holding demographics constant, veterans and nonveterans can be said to differ with regard to level of income. Thus, following the application of weights, t-tests[12] and chi square statistics, as appropriate, were applied.

Organization of the Results

As indicated above, the survey instruments covered a variety of areas indicative of "success" in adult life: employment status, income, type of occupation, use of public assistance, education, training, and marital and family status. (Appendix A provides an in-depth description of the variables analyzed as part of this report together with various sample restrictions, assumptions, and limitations. Sample size changes across analyses, not detailed in this appendix, can be assumed due to missing values for the particular variable in question.) Before ascertaining how Project 100,000 participants and Potentially Ineligible recruits, in turn, fared relative to comparable nonveterans, a description of the characteristics and military service experiences of the low-aptitude military groups is provided. It is important to keep in mind that unweighted data are used for these analyses, thus allowing generalizations to the PK and PI populations. Following the main event--the veteran/nonveteran comparisons--are descriptions of the former military members' perceptions of the benefits of service. Finally, pertinent comparisons are made between low-aptitude veterans from the two different periods.

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[12] Initially, nonparametric Mann-Whitney U-tests were planned for continuous variables such as income and years of education completed in lieu of the t-tests so as to be more conservative and refrain from violating the assumptions of the t-test. This proved untenable since there were no available computer software packages that would accommodate the relatively large and weighted data set. Further, performing such tests was technically questionable since, given that most nonparametric statistics involve ranking of data, the weights would generate many tied ranks. Mann-Whitney U-tests were calculated (on a pilot basis) from SPSS-X but were found to be potentially erroneous, so such analyses were abandoned.

RESULTS: PROJECT 100,000 VETERANS

Characteristics and Military Experience

The Defense Department's contribution to the War on Poverty assumed that the disadvantaged would benefit from serving in the military. Before determining whether Project 100,000 lived up to this promise, data will be presented concerning the characteristics and military experiences of those PKs who participated in this study.

Only 13 of the respondents to the VETLIFE survey (4.2 percent) were still on active duty as of 1986 (Table 8). Given the generally poorer performance of the New Standards Men (NSM) while in service and the long intervening period between Project 100,000 and the current study, this figure is not surprising. As Table 9 shows, more nonblacks than blacks, nongraduates than graduates, and nonsoutherners than southerners entered service under Project 100,000.

Table 8

Military Status of Project 100,000 Sample at Time of Survey

Military Status at Time of Survey	N	%
Active Duty	13	4.2
Separated	298	95.8
Total	311	100

Table 9

Project 100,000 Sample, by Military Status at Time of Survey and Selected Characteristics

	Military Status at Time of Survey					
	Separated		Active Duty		Total	
Characteristic	N	%	N	%	N	%
Race						
Nonblack	196	65.8	6	46.2	202	65.0
Black	102	34.2	7	53.8	109	35.0
Educational Status at Entry						
Nongraduate	159	53.4	5	38.5	164	52.7
HS Graduate	139	46.6	8	61.5	147	47.3
Geographic Region						
Non-South	194	65.1	6	46.2	200	64.3
South	104	34.9	7	53.8	111	35.7
Service						
Army	193	64.8	4	30.8	197	63.3
Navy	31	10.4	0	0.0	31	10.0
Air Force	29	9.7	8	61.5	37	11.9
Marine Corps	45	15.1	1	7.7	46	14.8
All	298	95.8	13	4.2	311	100

Respondents were asked whether they were drafted into the military or volunteered. As shown in Table 10, 50 percent indicated that they were drafted. This figure approximates that provided by the Defense Department (1969), which indicated that 47.2 percent of those who entered under Project 100,000 between October 1966 and September 1969 were draftees.

Table 10

How Project 100,000 Sample Entered Military Service

How Entered	N	%[a]
Drafted	149	50.3
Enlisted (Recruited)	8	2.7
Enlisted as Volunteer	104	35.1
Enlisted (felt Drafted)	32	10.8
Other	3	1.0
Unknown[b]	15	--
Total	311	100

[a] The percentages may not sum to 100 due to rounding.

[b] Not included in the calculation of percentages.

Overall, the mean time spent in service was slightly over 24 months. Nearly 70 percent of the respondents indicated that they served between one and two years. The normal term of duty for draftees during this period was two years, but it was possible to leave service before the end of this period if one was returning from a tour of duty in Vietnam. Therefore, it is probable that these results reflect Service policies at the time. Nearly 10 percent of the sample served less than one year; these individuals were most likely attrition cases (Table 11).

Table 11

Project 100,00 Sample Separated From Service at Time of Survey, by Length of Service

	Length of Service[a]										
	≤1 yr	1-2 yrs	2 yrs	2-3 yrs	3 yrs	3-4 yrs	4-5 yrs	5-6 yrs	>6 yrs	Unk[b]	Total
N	28	89	116	17	12	20	3	4	6	3	298
%[c]	9.5	30.2	39.3	5.8	4.1	6.8	1.0	1.4	2.0	--	100

[a] Length of service headings were chosen for ease of presentation and do not overlap as implied. Actual categories are as follows: less than or equal to 1; greater than 1 but less than 2; 2; greater than 2 but less than 3; 3; greater than 3 but less than or equal to 4; greater than 4 but less than or equal to 5; greater than 5 but less than or equal to 6; and greater than 6.

[b] Unknown length of service not included in percentage calculations.

[c] The percentages may not sum to 100 due to rounding.

When length of service was examined by respondent characteristics, two significant differences emerged (Table 12). The relationship between branch of service and tenure was due primarily to the longer terms served by those in the Air Force--the mean number of months on active duty was nearly twice that for the other Services. Enlistees, as compared to draftees, also had a significantly longer term (i.e., $\overline{X} = 29$ months versus 22 months, respectively). In both cases this could have been due to the type of job or the circumstances under which one entered. In regard to occupation, the Air

Table 12

Number of Months Served on Active Duty by Project 100,000 Sample Separated From Service at Time of Survey, by Selected Characteristics

	Sample Statistics				
Characteristic	N	Mean	Median	Standard Deviation	t/F Value
Race					
Nonblack	196	24	24	13	-1.9^{ns}
Black	102	28	24	17	
Educational Status at Entry					
Nongraduate	159	24	24	17	-1.8^{ns}
HS Graduate	139	27	24	17	
Service					
Army	193	24	24	10	
Navy	31	23	23	10	20.3***
Air Force	29	44	48	28	
Marine Corps	45	22	24	14	
All	298	25	24	15	

*** = $p < .01$
ns = Not Significant.

Force tends to have jobs that require more technical training and therefore demand longer terms than specialties that are less training-intensive. Enlistees were often barred from 2-year terms, and if they entered to obtain technical training may have been required to accept a longer period of service.

Twenty-eight percent of the sample reported that they received no training (other than basic) in the military. Of those who did enter training, 92 percent indicated that they completed the program; however, only 12.6 percent said that they actually used the skills gained on their military jobs. The first figure is in line with Department of Defense (1969) figures, which show an entry-level skill training completion rate of between 81 and 93 percent depending on the particular Service.

Unfortunately, the military occupational data which respondents provided was of poor quality. Interviewers were instructed to probe if the answers to the question regarding Military Occupational Specialty (MOS) were vague or if the respondent couldn't remember his occupational specialty. Despite this effort, 50 percent of the sample received no code, and an additional 23 percent lacked enough specificity to classify them even in terms of broad one-digit DoD occupational codes. (Appendix Table B-1 provides data on the occupations of the remaining one-quarter of the sample.) DoD figures regarding the occupational assignment of NSM indicate that 37 percent were in Infantry, Gun Crews, and Seamanship positions, 21 percent in Service and Supply, and 17 percent in Electrical/Mechanical Equipment Repair (Department of Defense, 1969).

In regard to pay grade, slightly over half the sample were E-4s when they left the military. Among the PKs separated from service, eight percent were E-1s and five percent E-2s (and thus were most likely attritees). Sixteen percent of the respondents were E-3s at the time of separation, while 19 percent were E-5s. These results parallel most closely those reported by the Defense Department (1969) for the Army, which is logical since the majority of the individuals in the sample entered that Service.

Overall, 56 percent of the sample served in Vietnam. Whether or not one served in Vietnam was unrelated to race, education, or branch of service (Table 13), although length of stay did vary by Service. Army personnel were stationed in Vietnam the longest ($\bar{X} = 12.84$ months), while those in the Navy were there for the shortest period of time ($\bar{X} = 6.19$ months).

Table 13

Project 100,000 Sample Who Served in Vietnam, by Selected Characteristics

Characteristic	Served in Vietnam N	Served in Vietnam %	Did not Serve in Vietnam N	Did not Serve in Vietnam %	Chi Square Value
Race					
Nonblack	108	54.0	92	46.0	2.7^{ns}
Black	67	61.5	42	38.5	
Educational Status at Entry					
Nongraduate	92	56.8	70	43.2	1.8^{ns}
HS Graduate	83	56.5	64	43.5	
Service					
Army	115	59.0	80	41.0	5.7^{ns}
Navy	12	38.7	19	61.3	
Air Force	19	51.4	18	48.6	
Marine Corps	29	63.0	17	37.0	
All	175	56.6	134	43.4	

ns = Not Significant.

In conclusion, only a small number of the Project 100,000 participants were still on active duty some 20 years later. The sample mirrors the overall PK population in regard to how they entered the military, while the average tenure appears to reflect DoD and Service policies during this period. Respondents were unable to provide accurate data regarding the occupational areas to which they were assigned. Finally, over half the sample were stationed in Vietnam during part of their tour of duty, with an average stay of 10 months.

Post-Service Experience. Data regarding the current employment status and income for the PKs who participated in the survey were examined in conjunction with personal and military-history characteristics. This provides an indication of the extent to which factors other than veteran status had an impact on the major dependent variables, as well as affording an opportunity to examine the sample prior to weighting.

Table 14 provides a breakdown of the employment status of the separated PK respondents at the time of the survey. Almost 15 percent of the sample was unemployed, a rate nearly three times that for 35- to 40-year-old males

Table 14

Employment Status of Project 100,000 Sample
Separated From Service at Time of Survey

Employment Status	N	%[a]
Full-Time Employed	226	76.9
Part-Time Employed	24	8.2
Total Employed	250	85.0
Unemployed	44	15.0
Total	294	100

[a] The percentages may not sum due to rounding.

nationally in 1986.[13] As can be seen in Table 15, only between racial groups (black/nonblack) were significant differences detected between the percent employed or unemployed. Among these low-aptitude veterans, 10 percent more blacks than nonblacks were unemployed. Education, years of service, and branch of service were unrelated to this variable.

Table 15

Employment Status of Project 100,000 Sample Separated From Service at Time of Survey, by Selected Characteristics

	Employment Status				
	Employed		Unemployed		
Characteristic	N	%	N	%	Chi Square Value
Race					
Nonblack	170	88.5	22	11.5	4.6**
Black	80	78.4	22	21.6	
Educational Status at Entry					
Nongraduate	132	83.0	27	17.0	.8^{ns}
HS Graduate	118	87.4	17	12.6	
Years of Service[a]					
Less than 2	82	79.6	21	20.4	2.4^{ns}
2	90	86.5	14	13.5	
Greater than 2 but less than 3	10	76.9	3	23.1	
Greater than or equal to 3	37	86.0	6	14.0	
Service					
Army	162	84.4	30	15.6	.8^{ns}
Navy	28	90.3	3	9.7	
Air Force	36	83.7	7	16.3	
Marine Corps	24	85.7	4	14.3	
All	250	85.0	44	15.0	-

[a] Sums to less than total due to missing cases.

** = $p < .05$
ns = Not Significant.

---

[13] This figure was obtained from the Bureau of Labor Statistics. Not included in the base or among the unemployed are "discouraged" workers--those who were out of work but have not looked for work in the last four weeks.

The PKs' mean wages are presented in Table 16, again broken down by race, education, and Service. In addition, Table 17 presents correlations between annual wages and the number of years served, as well as the number of years since separation. These data reflect the wages of those who were employed at the time of the survey (part-time or full-time) who reported an income amount greater than zero. The mean income for veterans was $16,944, which compares with an average income of $28,497 for 35- to 44-year-olds in the general population.[14] Given that the latter figure includes individuals of all aptitudes, educational levels, etc., the size of this difference is not surprising.

Table 16

Annual Income From Wages of Project 100,000 Sample
Separated From Service at Time of Survey, by Selected Characteristics

	Unadjusted Annual Income From Wages Only[a]				
Characteristic	N[b]	Mean	Median	Standard Deviation	t/F Value
Race					
Nonblack	146	18,209	18,000	10,435	2.4**
Black	89	14,869	16,000	10,260	
Educational Status at Entry					
Nongraduate	124	15,515	16,000	10,627	-2.2**
HS Graduate	111	18,540	19,000	10,110	
Service					
Army	153	16,039	16,000	10,351	2.3[ns]
Navy	24	16,640	15,500	12,016	
Air Force	24	22,014	22,500	10,721	
Marine Corps	34	17,651	18,000	8,976	
All	235	16,944	17,000	10,474	

[a] In dollars.

[b] Unweighted frequency.

** = $p < .05$
ns = Not Significant.

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[14] Data obtained from the Bureau of Labor Statistics, unpublished tables from the March 1986 Current Population Survey. The veterans' income value is significantly different from the population value, t=-16.9.

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Table 17

Correlations of Annual Income With Months on Active Duty and Time Out of Service for Project 100,000 Sample Separated From Service at Time of Survey

Correlation Between Income and Months on Active Duty		Correlation Between Income and Time Out of Service	
Wages Only	Wages FBI[a]	Wages Only	Wages FBI[a]
$-.01^{ns}$	$-.01^{ns}$	$.03^{ns}$	$.02^{ns}$

[a] FBI -- Farm or Business Income.

ns = Not Significant.

Comparisons within the sample again reveal a significant difference between black and nonblack respondents, with nonblacks earning an average of nearly $3,300 more than blacks. Education also had an impact in this regard, with high school graduates earning nearly $3,000 more than nongraduates. When wages were examined in regard to the branch in which the respondent served, no significant differences were found. The correlation between the length of time served and wages was not significant, nor was the correlation between years separated and wages.

The data presented in Table 18 reflect earnings from wages as well as income received from a farm or business during 1985. Again racial differences emerged, with nonblacks earning significantly more than blacks. When this income source was added, however, the differences between high school graduates and nongraduates was not statistically significant. The branch in which the respondent served was not related to income, and length of service and years since separation remained unrelated to the amount earned.

Table 18

Annual Income From Wages and Farm or Business (FBI)
of Project 100,000 Sample Separated From Service
at Time of Survey, by Selected Characteristics

Characteristic	Unadjusted Annual Wages and FBI[a]				
	N[b]	Mean	Median	Standard Deviation	t/F Value
Race					
Nonblack	152	19,429	19,000	12,286	2.7***
Black	84	15,362	17,000	10,094	
Educational Status at Entry					
Nongraduate	122	16,874	16,000	11,926	-1.5ns
HS Graduate	144	19,166	20,000	11,377	
Service					
Army	158	17,098	17,000	11,423	1.9ns
Navy	28	18,604	15,500	14,947	
Air Force	24	23,055	23,665	10,717	
Marine Corps	34	18,582	18,000	10,886	
All	244	18,062	18,000	11,800	

[a] In dollars.

[b] Unweighted frequency.

*** = $p < .01$
ns = Not Significant.

In summation, the major relationship between respondent characteristics and employment status and income was for race, with blacks more likely to be unemployed and earning significantly less than nonblacks. Although education was unrelated to employment status, nongraduates made less than high-school graduates when only wages were taken into account. Military history variables such as the branch in which one served, the amount of time served, and the amount of time since separation were unrelated to subsequent employment status or income.

Comparison with Low-Aptitude Nonveterans

To address whether Project 100,000 was successful in meeting its objectives, its participants were equated and compared to a sample of low-aptitude nonveterans. The hopes of Project 100,000 were not to turn the disadvantaged into the affluent, but rather to ameliorate their skills deficits. If the program were successful, this should be reflected in the experiences of veterans after they separated from service. That is, they would be expected to be significantly better off than their low-aptitude counterparts who were never in the military, in terms of such variables as employment status, occupation, and income.

The previous analyses suggested that the specifics of one's military history were unrelated to the major dependent variables of interest in this study. A number of relationships were found, however, between respondent demographic characteristics and subsequent employment and income experiences. This reinforced the need to equate the NLS and veteran samples through weighting so as to eliminate potential bias from differences in the samples on dimensions other than veteran status. Within the veteran sample, there was little need to be concerned about the specific branch in which the respondent served, the amount of time served, and so forth, as these variables do not seem to be related to the variables of interest in this study.

The following discussion focuses on a number of domains that may be affected by having served in the military. The experiences of low-aptitude veterans and nonveterans are compared in regard to their employment and occupation, income, other economic variables such as welfare and unemployment compensation received, education and training, and marriage and family history.

Employment and Occupation

Table 19 provides a breakdown of the current employment status of Project 100,000 participants and low-aptitude civilians. The results for the PKs are presented for separated individuals only, as well as for separated and active duty PKs (all of the latter included as full-time workers). The upper portion of the table displays data weighted to equate the two samples on the key demographic variables discussed earlier. The weighted sample sizes in the lower portion of the table were adjusted to correct for design effects. These Ns are the ones on which statistics were computed.

As can be seen in Table 19, no significant differences were found between the employment status of the veterans and the nonveterans. This was true whether the part-time employees were grouped with full-time or with unemployed. (Due to the small number of part-time employees, comparisons between all three groupings could not be carried out.) Approximately 88 percent of the former military members were employed either full- or part-time, as were 91 percent of the NLS respondents. This difference became even smaller when the active duty NSM were added, with 89 percent of the PKs employed.

Although it was determined earlier that length of service was not related to employment status, nonveterans and veterans who served 18 months or more were compared. This was done to deflect potential criticism that a portion of the sample was in the military for too short a period of time to gain any possible benefit. Eighteen months was selected as the cut-off point

Table 19

Employment Status for Project 100,000 and NLS 1966 Samples

	Employment Status							
	Full-Time		Part-Time		Not Working		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran								
PK Separated[b]	250	84.9	10	3.5	34	11.5	294	100
PK Separated and Active Duty	261	85.5	10	3.4	34	11.1	305	100
Nonveteran								
NLS 1966 in 1981	177	90.8	2	0.9	16	8.4	195	100

Chi-Square Statistics

	Effective Sample		
	Full-Time	Part-Time	Not Working
PK Separated	133	5	18
PK Separated and Active Duty	139	5	18
NLS 1966 in 1981	130	1	12

PK Separated vs. NLS	
Working vs. Not Working	0.8^{ns}
Full-Time vs. Part-Time and Not Working	2.3^{ns}
PK Separated and Active Duty vs. NLS	
Working vs. Not Working	0.6^{ns}
Full-Time vs. Part-Time and Not Working	2.0^{ns}

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Includes those serving in the reserves.

Note: Full-Time vs. Part-Time vs. Not Working and Full-Time vs. Part-Time comparisons could not be interpreted due to small cell sizes for part-time workers.

ns = Not Significant.

because this would have allowed sufficient time for individuals to complete basic training as well as any subsequent individual training. This would also allow for Service policies that permitted early separation under honorable conditions. When the NLS and PK samples were compared on their employment status, with the latter sample being restricted to those who served at least 18 months, the results remained the same--no significant differences were found (Table B-2).

Another possible criticism which could be leveled concerns the fact that the age ranges for the two groups were not the same at the time they were surveyed. That is, when they were interviewed in 1986-87 Project 100,000 participants were 35 to 45 years of age. When the NLS respondents were last interviewed in 1981, they were 30 to 40 years old. The potential problem which arises has to do with possible differences between the older PK group (40-45) and the younger NLS group (30-35) which may influence the results. To address such questions, the same analyses were conducted with only respondents from the same age group (35-40) included. These results are presented in Table 20, and reveal significant differences. Project 100,000 participants in the 35-40 age group were more likely to be unemployed than were NLS respondents of the same age.

A question was included in both surveys concerning the type of establishment for which respondents worked--private company, government agency (federal, state or local), or their own business. These data are presented in Table 21. Significant differences emerged, showing a higher percentage of NLS participants (91 percent) employed by private companies or their own businesses, with a correspondingly higher rate of PK employment by government agencies (22.7 percent). This result held whether all or only

Table 20

Employment Status for Project 100,000 and NLS 1966 Samples Controlling for Age

Sample	Full-Time N[a]	Full-Time %	Part-Time N[a]	Part-Time %	Not Working N[a]	Not Working %	Total N[a]	Total %
Veteran								
PK Separated[b] 35-40 year olds	179	87.0	6	2.7	21	10.3	206	100
Nonveteran								
NLS 1966 in 1981 35-40 year olds	94	96.4	1	0.8	3	2.7	98	100

Chi-Square Statistics

	Effective Sample Full-Time	Effective Sample Part-Time	Effective Sample Not Working
PK Separated	94	3	11
NLS 1966 in 1981	69	1	2
PK Separated vs. NLS			
Working vs. Not Working			3.7**
Full-Time vs. Part-Time and Not Working			4.6**

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Separated includes those serving in the reserves.

Note: Full-Time vs. Part-Time vs. Not Working and Full-Time vs. Part-Time comparisons could not be interpreted due to small cell sizes for part-time workers.

** = $p < .05$

Table 21

Class of Worker for Full-Time Workers of Project 100,000 and NLS 1966 Samples

	Class of Worker							
	Private Company		Government Employee		Own[a] Business		Total	
Sample	N^b	%	N^b	%	N^b	%	N^b	%
Full-Time Workers								
PK Separated[c]	172	69.2	54	21.8	22	8.9	249	100
NLS 1966 in 1981	132	74.6	17	9.7	28	15.7	177	100
All Workers[d]								
PK Separated	178	67.7	60	22.7	25	9.6	263	100
NLS 1966 in 1981	144	76.3	17	9.0	28	14.7	189	100

Chi-Square Statistics

	Effective Sample		
	Private	Government	Own Business
Full-Time Workers			
PK Separated	91	29	12
NLS 1966 in 1981	97	13	21
All Workers			
PK Separated	94	31	13
NLS 1966 in 1981	107	13	21

Full-Time Workers	
PK Separated vs. NLS	
Private vs. Government vs. Own Business	8.9^{**}
All Workers	
PK Separated vs. NLS	
Private vs. Government vs. Own Business	10.4^{***}

[a] Own Business includes employee-owned business, family business without pay, own farm business, and working without pay in farm business.

[b] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[c] Separated includes those serving in the reserves.

[d] All workers includes full-time and part-time workers.

** = $p < .05$
*** = $p < .01$

full-time workers were included in the analyses. Among the possible explanations for this result is the veterans' preference in federal hiring, which may have served to attract Project 100,000 participants to government employment as well as easing their way into positions in this arena.

The 1966 NLS (and its follow-ups) employed an occupational coding scheme developed by the Census Bureau. The VETLIFE surveys used the 1980 revision of the same classification method. The two coding schemes, therefore, had to be equated to produce meaningful comparisons. Because the size of the samples is not large, these data are presented in the more generic one-digit categories developed by Census. The 1960 occupational coding scheme had nine such general categories, while the 1980 revision had 11. (Two of the original groupings were divided to create greater homogeneity among the jobs in each group.) The equating process involved combining occupations from the newer categories to provide a system which could be directly compared with data coded according to the 1960 scheme, resulting in the nine occupation categorization seen in Table B-3.

Generally, differences between civilian and veteran low-aptitude workers in terms of the type of work they performed were not large. The civilians had somewhat higher percentages in Professional/Technical/Managerial and Farm occupations. The PKs were slightly more concentrated in Clerical and Service jobs. When the analysis was restricted to those in the same age category at the time of survey (Table B-4), these differences were somewhat larger. One other noticeable change when this restriction was made was that a substantial gap occurred between the percentage of PKs in Craftsmen, Operatives, Repair, and Precision Production occupations as compared to the NLS. Whereas 2 percent more of the PKs were in this category when all ages were included, there was a 9 percent difference between the 35-40 year olds.

Regardless of these minor nominal differences, when occupational categories were collapsed to form five groups as shown in Tables 22 and 23, chi-square analyses failed to uncover statistically significant differences in regard to the percentages of each sample in the various occupational groupings.

The final employment variable examined was a work tenure measure. Respondents in both groups were asked about the job they had held for the longest time in the past 5 years--when that job was first taken, and when they left (if, in fact, they had). It should be noted that the respondent may have started the job in question longer than 5 years ago. The question was, of all jobs held in the past 5 years, which one was held for the longest time. The year in which the respondent started the job was subtracted from the year it was left to determine tenure. If the respondent still had this particular job, starting year was subtracted from the year in which he was surveyed. These data, presented in Table 24, reveal that for the PK sample the mean was 9.6 years. For civilians this figure was 7.9 years. This difference was statistically significant.

The median for the NLS was 1.5 years higher than that for the PK sample. This would suggest that some PK respondents had held their job for a relatively long period of time compared to others in the sample, thus increasing the mean. Job stability may be particularly sensitive to age differences, so the fact that the Project 100,000 sample includes older individuals may account for their longer job tenure. To correct for this difference, the same analyses were conducted with only those who were 35-40

Table 22

Civilian Occupational Categories for Project 100,000 and NLS 1966 Samples

	Sample			
	PK Separated[b]		NLS 66 in 81	
Civilian Occupational Categories[a]	N[c]	%	N[c]	%
Professional, Technical, & Managerial	42	16.3	39	20.7
Sales, & Clerical & Administrative Support	34	13.1	22	11.4
Service, Private Household & Other	21	8.1	8	4.3
Farmers & Farm Managers, Farm Laborers & Foremen, & Laborers	24	9.3	23	11.9
Craftsmen, Operatives, Repair, & Precision Production	138	53.3	98	51.7
Total	260	100	189	100

Chi-Square Statistics

	Effective Sample	
	PK Separated	NLS 1966 in 1981
Professional...	22	29
Sales...	18	16
Service...	11	6
Farmers...	13	17
Craftsmen...	73	72
PK Separated vs. NLS Professional... vs. Sales... vs. Service... vs. Farmers... vs. Craftsmen...		3.0^{ns}

[a] Occupational codes for the PK and NLS were taken from the 1960 and 1980 versions of the Census 3-digit Occupational Classification System, respectively. The two versions were equated and this produced nine categories which have been consolidated into five categories for analysis.

[b] Includes those serving in the reserves.

[c] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

ns = Not Significant.

Table 23

Civilian Occupational Categories for Project 100,000 and NLS 1966 Samples Controlling for Age

	Sample			
	PK Separated[b] 35-40 year olds		NLS 66 in 81 35-40 year olds	
Civilian Occupational Categories[a]	N[c]	%	N	%
Professional, Technical, & Managerial	33	15.9	29	30.0
Sales, & Clerical & Administrative Support	29	14.1	9	9.1
Service, Private Household & Other	18	8.8	5	5.4
Farmers & Farm Managers, Farm Laborers & Foremen, & Laborers	20	9.6	13	13.2
Craftsmen, Operatives, Repair, & Precision Production	108	51.7	41	42.4
Total	209	100	97	100

Chi-Square Statistics

	Effective Sample	
	PK Separated	NLS 1966 in 1981
Professional...	18	21
Sales...	16	6
Service...	10	4
Farmers...	11	9
Craftsmen...	57	30

PK Separated vs. NLS Professional... vs. Sales... vs. Service... vs. Farmers... vs. Craftsmen...	6.9^{ns}

[a] Occupational codes for the PK and NLS were taken from the 1960 and 1980 versions of the Census 3-digit Occupational Classification System, respectively. The two versions were equated and this produced nine categories which have been consolidated into five categories for analysis.

[b] Includes those serving in the reserves.

[c] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

ns = Not Significant.

Table 24

Longest Job Held for Project 100,000 and NLS 1966 Samples

Sample	Longest Job Held (years) N[a]	Mean	Median	Standard Deviation
Veteran				
PK Separated and Active Duty	286	9.6	5.5	6.7
Nonveteran				
NLS 1966 in 1981	196	7.9	7.0	5.1

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated & Active	151	6.6	280.21	2.5**
NLS 1966 in 1981	145	5.1		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

** = $p < .05$

years old at the time they were surveyed. These results are shown in Table 25, and reveal that the means for these two groups were nearly identical. In this case, the median for the NLS was three years higher than that of the PK sample, again suggesting that the tenure for some of the PK respondents was significantly longer than for the bulk of the sample, thus increasing the overall mean.

Table 25

Longest Job Held for Project 100,000 and NLS 1966 Samples Controlling for Age

Sample	Longest Job Held (years)			
	N[a]	Mean	Median	Standard Deviation
Veteran				
PK Separated and Active Duty 35-40 year olds	227	8.7	5.5	5.9
Nonveteran				
NLS 1966 in 1981 35-40 year olds	99	9.0	8.5	6.0

	t-Test Statistics			
	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated & Active	120	6.1	191	-0.4^{ns}
NLS 1966 in 1981	73	5.7		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

ns = Not Significant.

In conclusion, little difference existed between Project 100,000 participants and low-aptitude civilians in regard to employment status. When the samples were restricted to those of the same age, however, the PKs were significantly more likely to be unemployed. The PKs were also more likely to be employed by the government, while civilians were found more often in private and self-owned business. There were roughly similar proportions of NLS and PKs in professional, technical, and managerial professions. Finally, when age was controlled there was no difference between the two samples regarding job stability.

Income

Perhaps the central variable of interest in the present study is income. As previously discussed, a major tenet of Project 100,000 was that military service would provide disadvantaged and lower aptitude youth with training and other experiences that would allow them to (re)enter the civilian work force better able to compete successfully. Certainly a leading indication of success would be post-service earnings. Results presented earlier suggested that specific military experience (i.e., branch and length of service) were unrelated to subsequent earnings. Demographic variables such as race and education were shown to have an impact. In the analyses presented below these factors were controlled through the weighting scheme, eliminating them as causal explanations for differences between civilian and veteran earnings.

In comparing civilian and military income measures it is critical that the difference in year of survey be taken into account. The NLS respondents reported income for the year 1980. Those who participated in the VETLIFE surveys provided income figures for either 1985 or 1986, depending on whether their responses were given in 1986 or 1987. Because of inflationary factors, absolute comparisons of these data are ill-advised. The adjustment factors described earlier were derived to equate income information to a common 1985 metric, while accounting for differences in age and education. For the most part the analyses presented below include the adjustment factors. When this is not the case it is so noted.

The first income measure was hourly pay. The respondent was asked how much he was paid by his employer before deductions, and whether this rate was paid per hour, day, week, every two weeks, month, or year. These figures were all converted to an hourly rate by dividing by the appropriate factor (i.e., day/8, week/40). This question was asked only of those PKs who were separated from service at the time of the survey. Therefore, all comparisons are between NLS and PKs who are now civilians.

Table 26 presents the means, medians, and standard deviations for hourly pay for NLS and separated PKs by employment status. As can be seen, nonveterans reported an hourly rate just about four dollars higher than did the PKs. This difference was significant.

Since it might be expected that older individuals would earn more as a result of having spent a longer time in the work force, comparisons were also made between the hourly pay of individuals 35-40 years of age at the time of the survey (Table 27). The results remained significant, in favor of the NLS, with the gap increasing to over five dollars per hour. This was true when only full-time employees were included in the analysis and when all of those reporting an income were included.

Hourly pay was also examined without applying the economic adjustments which convert the figures to a common 1985 base. These results appear in Appendix B. Table B-5 presents the results for the entire civilian and separated military samples, and no significant differences were found. The data in Table B-6 reflect the outcomes for respondents from the overlapping age range (35-40). In this case the results were significant, with the NLS earning an average of nearly two dollars more per hour. This indicates that low-aptitude civilians were making more in 1981 than low-aptitude veterans were making in 1985-86.

Table 26

Adjusted Hourly Pay for Project 100,000 and NLS 1966 Samples

		Adjusted Hourly Pay[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c]	Full-Time[d]	232	10.2	9.7	4.8
	All Workers[e]	245	10.1	9.3	4.8
Nonveteran					
NLS 1966 in 1981	Full-Time	111	14.2	12.9	6.8
	All Workers	119	14.1	12.5	6.7

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	122	4.7	129.6	- 4.5***
NLS 1966 in 1981	82	7.0		
All Workers				
PK Separated	129	4.7	142.1	- 4.8***
NLS 1966 in 1981	88	6.8		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time and part-time workers who reported income.

*** = $p < .01$.

Table 27

Adjusted Hourly Pay for Project 100,000 and NLS 1966 Samples Controlling for Age

		Adjusted Hourly Pay[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c] 35-40 year olds	Full-Time	186	10.2	9.5	4.6
	All Workers[e]	199	10.0	9.2	4.6
Nonveteran					
NLS 1966 in 1981 35-40 year olds	Full-Time	63	15.5	13.5	7.6
	All Workers	63	15.5	13.3	7.6

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	98	4.7	64.4	- 4.7***
NLS 1966 in 1981	47	7.2		
All Workers				
PK Separated	105	4.6	63.2	- 4.8***
NLS 1966 in 1981	47	7.2		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time and part-time workers who reported income.

*** = $p < .01$.

Respondents were also asked what their total household income was for the year prior to the survey. These data are presented in terms of the percentage of each sample whose total income was above or below $20,000. Because the adjustments were derived based on respondent characteristics alone, and these figures include income from all family members and all sources, application of the adjustments in this case is inappropriate. Therefore, only unadjusted results are reported. Table 28 shows that, for approximately 35 percent of both the NLS and PK full-time workers, household income was below $20,000. With all workers included, there was a 7 percentage point difference favoring the NLS; however, this result was not significant.

As with hourly pay, when only those in the overlapping age group were included in the analysis, a significant difference did emerge, with nearly 80 percent of the NLS total household incomes over $20,000 as compared to only 63 percent of the PKs (Table 29). Again, this indicates that the civilian low-aptitude respondents were somewhat better off in 1981 than were the veterans in 1985-86.

The final measure of income focused on earnings from wages as well as money made from farm or business ventures. As briefly mentioned in the previous section on the PKs' post-service experiences, one alteration was made to these data which should be noted. Specifically, if the respondent indicated that he was a full- or part-time worker and reported $0 in earnings, this result was treated as missing data and the individual was not included in the analyses for wages only. The assumption was that someone who has a job must be earning some form of income from that job (volunteer work is covered in a separate category). The fact that none was reported

Table 28

Total Household Income for Project 100,000 and NLS 1966 Samples

Sample	Total Household Income[a]				Total	
	Under 20K		Over 20K			
	N[b]	%	N[b]	%	N[b]	%
Full-Time						
Veteran						
PK Separated[c] and Active Duty	90	35.9	160	64.1	250	100
Nonveteran						
NLS 1966 in 1981	57	34.7	107	65.3	163	100
All[d]						
Veteran						
PK Separated and Active Duty	131	44.0	166	56.0	297	100
Nonveteran						
NLS 1966 in 1981	68	37.1	115	62.9	184	100

Chi-Square Statistics

	Effective Sample	
	Under 20K	Over 20K
Full-Time		
PK Separated and Active Duty	47	84
NLS 1966 in 1981	42	79
All		
PK Separated and Active Duty	69	88
NLS 1966 in 1981	50	85
PK Separated and Active Duty vs. NLS		
Full-Time -- Under 20K vs. Over 20K		0.0^{ns}
All -- Under 20K vs. Over 20K		1.4^{ns}

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes those working full-time or part-time, and those not working.

ns = Not Significant.

Table 29

Total Household Income for Project 100,000 and NLS 1966 Samples Controlling for Age

	Total Household Income[a]					
	Under 20K		Over 20K		Total	
Sample	N[b]	%	N[b]	%	N[b]	%
Full-Time						
Veteran						
PK Separated[c] and Active Duty 35-40 year olds	73	36.6	126	63.4	199	100
Nonveteran						
NLS 1966 in 1981 35-40 year olds	18	20.8	68	79.2	85	100
All[d]						
Veteran						
PK Separated and Active Duty 35-40 year olds	105	44.3	133	55.7	238	100
Nonveteran						
NLS 1966 in 1981 35-40 year olds	21	22.9	70	77.1	91	100

Chi-Square Statistics

	Effective Sample	
	Under 20K	Over 20K
Full-Time		
PK Separated and Active Duty	38	67
NLS 1966 in 1981	13	50
All		
PK Separated and Active Duty	56	70
NLS 1966 in 1981	15	52
PK Separated and Active Duty vs. NLS		
Full-Time -- Under 20K vs. Over 20K		4.6**
All -- Under 20K vs. Over 20K		8.5***

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes those working full-time or part-time, and those not working.

** = $p < .05$ *** = $p < .01$

was taken to indicate that the respondent simply didn't know or didn't care to respond, or that this answer was miscoded by the interviewer. When the focus was on wages and farm/business income, and these individuals provided an amount for the latter, they were included in the analyses.

Table 30 presents adjusted wage income data for PKs separated, PKs separated and active duty, and the NLS 1966 in 1981. The data are presented for full-time workers only and for all workers who reported an income. The same comparisons are presented in Table 31 with farm and business earnings included in the income figures. To determine the impact, if any, of length of service, these same comparisons were carried out with only those low-aptitude veterans who served 18 months or more. These results are shown in Tables 32 and 33. (Data for other minimum terms of service, described below, are presented in Appendix B.)

Taken together, these results clearly demonstrate that any advantage military service provided low-aptitude veterans over their civilian counterparts did not translate into higher future incomes. In all of the analyses described above, low-aptitude civilians earned significantly more than did the veterans. The smallest difference in average earnings between the two groups was about $5,000 a year (PK and NLS full-time employee wages only) (see Table 30). The largest was over $7,000 (all PK separated and active duty respondents and the entire sample of low-aptitude civilians, wages and farm/business income) (see Table 31). Futhermore, the possibility that this outcome was affected by the relatively short service terms of a portion of the PK sample was negated by the data. When the PK sample was restricted to those who served 18 months or more, the results remained much

Table 30

Adjusted Annual Income From Wages for Project 100,000 and NLS 1966 Samples

Sample	Employment Status	Adjusted Annual Income From Wages[a]			
		N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c]	Full-Time[d]	198	20,196	19,360	8,854
	All[e]	240	17,675	16,524	9,957
PK Separated and Active Duty	Full-Time	208	20,016	19,360	8,729
	All	250	17,629	16,779	9,794
Nonveteran					
NLS 1966 in 1981	Full-Time	146	25,153	22,499	12,121
	All	168	23,634	20,912	13,059

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers[c]				
PK Separated	104	8,552	191.66	-3.4***
NLS 1966 in 1981	108	12,377		
PK Separated & Active	110	8,577	190.09	-3.5***
NLS 1966 in 1981	108	12,377		
All				
PK Separated	127	9,931	228.30	-4.0***
NLS 1966 in 1981	124	13,227		
PK Separated & Active	132	9,803	226.26	-4.1***
NLS 1966 in 1981	124	13,227		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

*** = $p < .01$

Table 31

Adjusted Annual Income From Wages and Farm or Business (FBI) for Project 100,000 and NLS 1966 Samples

		Adjusted Annual Income From Wages & FBI[a]			
Sample	**Employment Status**	**N[b]**	**Mean**	**Median**	**Standard Deviation**
Veteran					
PK Separated[c]	Full-Time[d]	209	21,084	19,420	10,552
	All[e]	250	18,682	17,000	11,222
PK Separated and Active Duty	Full-Time	220	20,877	19,420	10,375
	All	260	18,602	17,000	11,030
Nonveteran					
NLS 1966 in 1981	Full-Time	161	27,569	23,620	16,052
	All	183	25,921	21,488	16,537

	t-Test Statistics			
	Effective Sample	**Standard Deviation**	**Degrees of Freedom**	**t Value**
Full-Time Workers				
PK Separated	110	10,283	201.40	-3.6***
NLS 1966 in 1981	119	16,298		
PK Separated & Active	116	10,166	198.93	-3.8***
NLS 1966 in 1981	119	16,298		
All				
PK Separated	132	11,174	235.32	-4.2***
NLS 1966 in 1981	135	16,676		
PK Separated & Active	137	11,022	232.43	-4.3***
NLS 1966 in 1981	135	16,676		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

*** = $p < .01$

the same, and the magnitude of the differences in earnings was similar (see Tables 32 and 33).

A further attempt was made to determine whether an even longer period of service would provide the benefits hoped for when Project 100,000 was initiated. Additional analyses were conducted in which the military sample was restricted to those who served 24 months or more (Appendix B, Tables B-7 and B-8). The results indicate that the gap between civilian and veteran income was equally large, with civilians earning between $4,900 and over $7,000 more depending on the particular subgroup(s) included in the analyses. (When the PK sample was restricted to those who served three or more years, the sample size became too small to provide meaningful comparisons.)

In conclusion, when veteran and civilian income data were compared, the results were unequivocal. No matter which measure of income was examined--hourly wages, household income, or earned income for the year prior to being surveyed--the civilians earned significantly more than their veteran counterparts. This would suggest that Project 100,000 participants either did not receive the "leg up" which it was hoped military service would provide, or were unable to translate any advantage gained into a competitive edge in the civilian world.

Other Economic Indicators

NLS and PK VETLIFE respondents were asked about a variety of other factors that could serve as indicators of their relative economic status. These include such variables as benefits received through place of employment, whether welfare or unemployment benefits were received in the

Table 32

Adjusted Annual Income From Wages for Project 100,000
Personnel Who Served 18+ Months and NLS 1966 Sample

		Adjusted Annual Income From Wages[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c]	Full-Time[d]	173	20,016	19,360	8,634
	All[e]	206	17,726	16,524	9,758
Nonveteran					
NLS 1966 in 1981	Full-Time	146	25,153	22,499	12,121
	All	168	23,634	20,912	13,059

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	91	8,420	188.94	-3.5***
NLS 1966 in 1981	108	12,377		
All				
PK Separated	109	9,732	224.22	-3.9**
NLS 1966 in 1981	124	13,227		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

*** = $p < .01$

Table 33

Adjusted Annual Income From Wages and Farm or Business (FBI) for Project 100,000 Personnel Who Served 18+ Months and NLS 1966 Sample

		Adjusted Annual Income From Wages & FBI[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c]	Full-Time[d]	182	20,969	19,420	10,435
18+ months	All[e]	213	18,801	17,000	11,097
Nonveteran					
NLS 1966 in 1981	Full-Time	161	27,569	23,620	16,052
	All	183	25,921	21,488	16,537

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	96	10,170	201.46	-3.6***
NLS 1966 in 1981	119	16,298		
All				
PK Separated	112	11,072	234.88	-4.0***
NLS 1966 in 1981	135	16,676		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

*** = $p < .01$

previous year, and whether assistance was provided by relatives in the year prior to being surveyed.

Respondents were asked about different types of fringe benefits which are commonly offered to employees.[15] The percentage of PK and NLS respondents who had each type of benefit available was examined first (Table 34). A high percentage of both groups reported that their employers offered medical and retirement benefits, as well as leave time (sick or vacation). A significantly higher proportion of NLS respondents had medical and retirement benefits available. Additional analyses were conducted for those

Table 34

Fringe Benefits Offered by Employers of Full-Time Separated Project 100,000 and Full-time NLS 1966 Samples

	Sample				
	PK		NLS		
Fringe Benefit	N	%	N	%	Chi Square Value
Medical/Life Insurance	200	79.3	136	100.0	23.6***
Retirement	157	63.9	105	76.2	4.1**
Training/ Education	114	47.2	78	57.0	2.2ns
Profit Sharing/ Stock Options	96	40.3	59	42.8	0.2ns
Free/Discounted Meals/Merchandise	67	27.2	47	33.2	1.0ns
Sick/Vacation Leave	225	90.6	138	96.9	3.8**

Note: Percentage within each group are not based on the same sample size due to differences in the amount of missing data for each variable.

** = $p < .05$
*** = $p < .01$
ns = Not Significant.

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[15] Only full-time NLS and full-time separated PK employees were included in the analyses. This restriction was applied under the assumption that those working less than full-time would be unlikely to have benefits made available to them.

who were aged 35-40 at the time of the survey. Although the percentage of nonveterans with medical benefits available remained significantly higher, no such difference was found for retirement or any other fringe benefit mentioned.

A second method of analyzing these data involved counting the number of benefits made available to each respondent, and then comparing the average number for each sample (Table B-9). When this was done, it was found that the employers of the NLS respondents offered more in the way of fringe benefits than did the PKs' employers ($\overline{X}$ = 5.78 vs. 5.12, t = -2.13, $p < .05$). When ages were restricted to the 35-40 groups, this difference was somewhat larger, again in favor of the nonveterans ($\overline{X}$ = 6.37 vs. 5.35, t' = -2.58, $p < .01$).

Respondents were asked if, at any time during the year prior to the survey, they had received any form of public assistance. Overall, the percentage of each group which had received welfare was low (Table 35), and the difference between the two groups was not significant. The same was true regarding unemployment benefits (Table 36). Approximately 12 percent of the low-aptitude nonveterans had received unemployment during the previous year, as compared to just under 10 percent of the veterans. This difference was also not significant. Neither of these results changed when the samples were restricted to individuals who were between the ages of 35 to 40 at the time of the survey. When those who had received unemployment compensation were compared in terms of the number of weeks they received it, no significant differences were found.

Table 35

Receipt of Welfare Benefits for Project 100,000 and NLS 1966 Samples

Sample	Welfare Benefits: Benefits N[a]	%	Welfare Benefits: No Benefits N[a]	%	Total N[a]	%
Veteran						
PK Separated and Active Duty	23	7.5	286	92.5	309	100
Nonveteran						
NLS 1966 in 1981	9	4.4	188	95.6	197	100

Chi-Square Statistics

	Effective Sample: Benefits	Effective Sample: No Benefits
PK Separated and Active Duty	12	151
NLS 1966 in 1981	6	139
PK Separated and Active Duty vs. NLS Benefits vs. No Benefits		1.3^{ns}

[a] Weighted frequency produced by demographically equating the military and civilian samples.

ns = Not Significant.

The final economic indicator included in the study was whether respondents had received any assistance from relatives in the previous year. The data shown in Table 37 indicate that a higher percentage of NLS respondents had received such assistance (9.5 percent vs. 3.7 percent). This variable is one that could be affected by age, in that one may assume younger people are more likely to be in a position to make such a request

Table 36

Receipt of Unemployment Compensation for Project 100,000 and NLS 1966 Samples

Sample	Unemployment Compensation: Benefits N[a]	Benefits %	No Benefits N[a]	No Benefits %	Total N[a]	Total %
Veteran						
PK Separated and Active Duty	30	9.7	275	90.3	305	100
Nonveteran						
NLS 1966 in 1981	24	12.3	174	87.7	199	100

Chi-Square Statistics

	Effective Sample: Benefits	Effective Sample: No Benefits
PK Separated and Active Duty	16	145
NLS 1966 in 1981	18	129
PK Separated and Active Duty vs. NLS Receive Benefits vs. Don't Receive Benefits		0.5^{ns}

[a] Weighted frequency produced by demographically equating the military and civilian samples.

ns = Not Significant.

and to have relatives in the position to respond to it. When age was controlled, the percentage of NLS and PK respondents receiving help from relatives was almost identical, and statistically not significant (Table B-10).

Table 37

Assistance From Relatives for Project 100,000 and NLS 1966 Samples

	Assistance From Relatives					
	Assistance		No Assistance		Total	
Sample	N[a]	%	N[a]	%	N[a]	%
Veteran						
PK Separated and Active Duty	11	3.7	297	96.3	308	100
Nonveteran						
NLS 1966 in 1981	19	9.5	180	90.5	199	100

Chi-Square Statistics

	Effective Sample	
	Assistance	No Assistance
PK Separated and Active Duty	6	157
NLS 1966 in 1981	14	133
PK Separated and Active Duty vs. NLS Receive Assistance vs. Don't Receive Assistance		4.3**

[a] Weighted frequency produced by demographically equating the military and civilian samples.

** = $p < .05$

Overall, there were few differences between the two low-aptitude samples of the Vietnam era on dimensions such as whether welfare, unemployment benefits, or assistance from relatives was received and on the fringe benefits made available to them by their employers.

Education and Training

Another benefit hypothesized to accrue from military participation by low-aptitude individuals was a sense of discipline, maturity, and goal orientation that would work to their advantage upon return to civilian life. One indirect measure of the success of this effort may be the degree to which the veterans sought to better themselves through education and training after leaving service. Therefore, the VETLIFE respondents were asked a variety of questions about their education and training histories, questions which paralleled those included in the NLS surveys.

Respondents were asked about their formal education backgrounds, including the highest grade of "regular" school completed. Table 38 shows that for the PKs the average was 11.7 years of education, while the corresponding NLS figure was 12.3 years. This difference was statistically significant. However, when age was controlled, the difference between the two groups diminished and was not found to be significant (Table 39).

The data in Table 40 provide a clearer picture of the educational profile of the two groups. Whereas over 26 percent of the nonveteran sample had at least some college, this was true for only about 17 percent of the veterans. The one statistically significant comparison was found between the percentage who had a high school diploma or less and the percentage who had at least some college. However, there was no significant difference even in this regard when age was controlled (Table B-11).

Although those who had attended college were asked about the degree they received (if any) and their field of study, the majority of both samples reported never receiving a degree. Thus the number of respondents

Table 38

Highest Grade of Regular School Completed for Project 100,000 and NLS 1966 Samples

Sample	Highest Grade Completed N[a]	Mean	Median	Standard Deviation
Veteran				
PK Separated[b]	299	11.7	12.0	2.1
PK Separated and Active Duty	310	11.7	12.0	2.1
Nonveteran				
NLS 1966 in 1981	192	12.3	12.0	2.0

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated	158	2.1	297	- 2.8***
NLS 1966 in 1981	142	2.0		
PK Separated & Active	163	2.1	303	- 2.7***
NLS 1966 in 1981	142	2.0		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Includes those serving in the reserves.

*** = $p < .01$

Table 39

Highest Grade Completed for Project 100,000 and NLS 1966 Samples Controlling for Age

Sample	Highest Grade Completed N[a]	Mean	Median	Standard Deviation
Veteran				
PK Separated[b] 35-40 year olds	238	11.8	12.0	1.9
PK Separated and Active Duty 35-40 year olds	247	11.9	12.0	2.0
Nonveteran				
NLS 1966 in 1981 35-40 year olds	96	12.4	12.0	2.3

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated	125	2.0	194	- 1.9[ns]
NLS 1966 in 1981	71	2.2		
PK Separated & Active	130	2.0	199	- 1.8[ns]
NLS 1966 in 1981	71	2.2		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Includes those serving in the reserves.

ns = Not Significant.

Table 40

Highest Level of Education Completed for Project 100,000 and NLS 1966 Samples

	Highest Level of Education Completed									
	Less Than High School		High School		Some College		College+		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran										
PK Separated[b]	82	27.3	166	55.4	42	14.0	10	3.2	299	100
PK Separated and Active Duty	85	27.3	170	54.9	44	14.1	11	3.6	310	100
Nonveteran										
NLS 1966 in 1981	46	24.0	95	49.4	32	16.7	19	9.9	192	100

Chi-Square Statistics

	Effective Sample			
	Less Than HS	High School	Some College	College+
PK Separated	43	87	22	5
PK Separated and Active Duty	45	90	23	6
NLS 1966 in 1981	34	70	24	14

PK Separated vs. NLS	
Less Than HS vs. HS vs. Some College vs. College+	6.4[ns]
Less Than HS vs. HS & Some College & College+	0.4[ns]
Less Than HS & HS vs. Some College & College+	3.8[**]
PK Separated and Active Duty vs. NLS	
Less Than HS vs. HS vs. Some College vs. College+	5.7[ns]
Less Than HS vs. HS & Some College & College+	0.4[ns]
Less Than HS & HS vs. Some College & College+	3.5[ns]

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Includes those serving in the reserves.

** = $p < .05$
ns = Not Significant.

was too small (55 PKs and 25 NLS) to provide meaningful comparisons. The data are presented in Tables B-12 and B-13.

Project 100,000 respondents were asked three questions regarding training programs they may have attended. Specifically, they were asked if they had ever attended a course at a business college or vocational/technical institute, attended a business or company training school, or taken additional courses at a regular school. NLS participants were asked one question regarding any training course or education programs attended. (This question was asked each year the NLS was conducted. The data discussed here refer to the last course the respondent mentioned.) Table 41 shows a significant difference between the two groups, with 68 percent of the nonveterans indicating that they had attended such a program as compared to 42 percent of the veterans. This difference was unaffected by age. It should be noted that the PKs were told to omit any military training received when answering this question. It may be that these individuals felt there was no need for additional training after their military experience, and so never pursued this particular option. In any case, had the veterans been allowed to include military training, it is likely that these results would be somewhat different.

Those respondents who had attended some form of training were also asked if they had completed the program. The data in Table 42 (which again refer to the last training program attended) indicate that approximately one-third of each group failed to complete the course, the difference between the PK and NLS being nonsignificant in this case.

Table 41

Participation in Training for Project 100,000 and NLS 1966 Samples

	Ever Enrolled in Training[a]					
	Enrolled		Not Enrolled		Total	
Sample	N[b]	%	N[b]	%	N[b]	%
Veteran						
PK Separated[c]	121	42.5	163	57.5	284	100
PK Separated and Active Duty	125	42.5	169	57.5	294	100
Nonveteran						
NLS 1966 in 1981	135	67.7	64	32.3	199	100

Chi-Square Statistics

	Effective Sample	
	Enrolled	Not Enrolled
PK Separated	64	86
PK Separated and Active Duty	66	89
NLS 1966 in 1981	99	47
PK Separated vs. NLS Enrolled vs. Not Enrolled		19.0***
PK Separated and Active Duty vs. NLS Enrolled vs. Not Enrolled		19.5***

[a] Participation in training in the last five years, excluding regular school. Though military training was subsumed under this survey question, through responses to a subsequent item those who received military training were not included as participants.

[b] Weighted frequency.

[c] Includes those serving in the reserves.

*** = $p < .01$

Table 42

Training Completed by Project 100,000 and NLS 1966 Samples

	Completed Training					
	Completed Training		Did Not Complete		Total	
Sample	N[a]	%	N[a]	%	N[a]	%
Veteran						
PK Separated[b]	84	70.8	34	29.2	118	100
PK Separated and Active Duty	87	71.4	35	28.6	122	100
Nonveteran						
NLS 1966 in 1981	89	70.5	37	29.5	126	100

Chi-Square Statistics

	Effective Sample	
	Completed Training	Did Not Complete
PK Separated	44	18
PK Separated and Active Duty	46	18
NLS 1966 in 1981	65	27
PK Separated vs. NLS Completed Training vs. Did Not Complete		0.0[ns]
PK Separated and Active Duty vs. NLS Completed Training vs. Did Not Complete		0.0[ns]

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Includes those serving in the reserves.

ns = Not Significant.

The final question asked in this portion of the survey concerned the kind of training received. Over the years, the response options presented to the NLS participants changed. Because of this, categories had to be collapsed so that the data for groups could be compared at least qualitatively. As seen in Table 43, there was a great deal of similarity between the types of courses taken by NLS and PK respondents, with a slight tendency toward more managerial training among the NLS and "other types of training" for the PKs.

Table 43

Kind of Training Received by
Project 100,000 and NLS 1966 Samples

	Kind of Training									
	Professional/ Technical		Managerial		Clerical		Other		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N	%
PK Separated[b]										
Business College[c]	24	28.8	8	9.4	1	1.8	49	60.1	82	100
6 Weeks Course[d]	9	44.8	5	21.5	1	2.7	7	31.0	22	100
PK Separated and Active Duty										
Business College[c]	25	29.6	8	9.3	3	3.1	49	58.0	85	100
6 Weeks Course[d]	10	45.2	5	21.3	1	2.7	7	30.8	23	100
NLS 1966 in 1981[e]	43	33.6	23	17.5	3	2.1	60	46.8	129	100

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Includes those serving in the reserves.

[c] PK respondents were asked if they attended a business college or vocational school, and if they did, what kind of training they received.

[d] PK respondents were asked if they attended a full-time course of 6 weeks or longer, and if they did, what kind of training they received.

[e] NLS respondents were asked one question covering business and vocational training, except in 1966 they were asked the same questions that the PK survey used. If the most recent training for NLS respondents was in 1966, then the kind of training defaults first to any business college or vocational school and second to any full-time course of 6 weeks or longer.

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In general, the educational and training backgrounds of the Project 100,000 and NLS participants were quite similar. Military service, therefore, appeared to have little impact on lower aptitude individuals in regard to their propensity to seek self-improvement through education. This result should be evaluated in light of other research which has shown that over 70 percent of Vietnam-era veterans returned to school at some point (Rothbart, Sloan, & Joyce, 1981). For the present sample, however, the percentage attending any type of training was considerably smaller.

Marital and and Family Status

The final area of military-civilian comparisons was in the realm of marriage and family. The ability to enter into and maintain a life-long relationship and contribute to society by raising the next generation of Americans is often viewed as a sign of a stable and mature individual. At the same time, one of the goals of Project 100,000 was to foster and develop in its participants, many of whom were themselves raised in somewhat less than ideal circumstances, the sense of maturity and discipline that is endemic to the military environment. One reflection of the success of this effort may be the degree to which veterans were able to create and sustain a secure family life. Both the NLS and VETLIFE surveys included questions on current marital status, marital history (number of marriages), and the number of children which the respondent had fathered (in or out of wedlock).

Table 44 shows that there were few differences between the overall samples in terms of current marital status. In both cases approximately 75 percent of the respondents were married at the time of the survey. There

Table 44

Marital Status for Project 100,000 and NLS 1966 Samples

	Marital Status									
	Married		Widowed		Divorced/ Separated		Never Married		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N	%
Veteran										
PK Separated and Active Duty	232	74.7	0*	0.1	56	17.9	23	7.3	311	100
Nonveteran										
NLS 1966 in 1981	152	76.7	--	--	28	13.9	19	9.4	198	100

Chi-Square Statistics

	Effective Sample			
	Married	Widowed	Div/Sep	Never Married
PK Separated and Active Duty	122	0*	29	12
NLS 1966 in 1981	112		20	14

PK Separated and Active Duty vs. NLS[b]	
Married & Widowed vs. Div/Sep vs. Never Married	1.2^{ns}
Married vs. Never Married	0.4^{ns}

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Comparison between Married vs. Widowed vs. Div/Sep vs. Never Married can not be calculated due to small cell sizes.

Note: 0* indicates N < .50 which is possible because of weighted data.

ns = Not Significant.

was a slightly higher percentage of divorced PKs, and a slightly higher percentage of NLS participants who had never been married, although these differences were not significant.

Given that the NLS sample included individuals who were one to five years younger at the time of survey than were the PKs when the VETLIFE study was conducted, it was decided to examine the current marital status data for those who were 35-40 (overlapping years) when they were interviewed. When this was done, significant differences emerged (Table 45). Sixteen percent more of the NLS respondents than of the PKs in this restricted sample were married, while the divorce rate for PKs was nearly double that of their nonveteran counterparts. Furthermore, while all of the civilians had been married at least once, nearly 7 percent of the PKs had never been married.

Comparisons of the average number of marriages are presented in Table 46. As a group, the average for the PKs was 1.4 marriages. The corresponding figure for the NLS was significantly lower at 1.1. When age was controlled, this difference was smaller (1.3 for PKs, 1.2 for NLS) and yet still statistically significant (Table B-14).

When the respondents were asked about the number of children fathered, it was found that while 19 percent of the PKs had yet to have any, all of the low-aptitude nonveterans had fathered at least one child (Table 47). The average number for the NLS was significantly higher (Table B-15), with the difference slightly larger when the sample was restricted to control for age (Table B-16).

Although it is difficult to assess the impact of having served in the military on variables such as these, the data indicate that the PKs were more likely than their nonveteran counterparts to be divorced or to have

Table 45

Marital Status for Project 100,000 and NLS 1966 Samples Controlling for Age

	Marital Status									
	Married		Widowed		Divorced/ Separated		Never Married		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N	%
Veteran										
PK Separated and Active Duty 35-40 year olds	186	74.7	0*	0.0	46	18.4	17	6.8	249	100
Nonveteran										
NLS 1966 in 1981 35-40 year olds	90	90.7	--	--	9	9.3	--	--	100	100

Chi-Square Statistics

	Effective Sample			
	Married	Widowed	Div/Sep	Never Married
PK Separated and Active Duty	98	0*	24	9
NLS 1966 in 1981	67		7	
PK Separated and Active Duty vs. NLS[b] Married & Widowed vs. Div/Sep vs. Never Married				9.1**

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Comparisons between Married vs. Widowed vs. Div/Sep vs. Never Married can not be calculated due to small cell sizes.

Note: 0* indicates N < .50 which is possible because of weighted data.

** = $p < .05$.

Table 46

Number of Times Married for Project 100,000 and NLS 1966 Samples

Sample	Number of Times Married			
	N[a]	Mean	Median	Standard Deviation
Veteran				
PK Separated and Active Duty	286	1.4	1.0	0.7
Nonveteran				
NLS 1966 in 1981	199	1.1	1.0	0.4

t-Test Statistics				
	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated & Active	151	0.7	239.31	3.6***
NLS 1966 in 1981	147	0.4		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

*** = $p < .01$.

Table 47

Number of Children Fathered by Project 100,000 and NLS 1966 Samples

	Number of Children Fathered															
	0		1		2		3		4		5		6 or More		Total	
	N[a]	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Project 100,000	60	19.3	57	18.4	100	32.2	53	17.2	26	8.3	10	3.2	5	1.5	257	100
NLS 66 in 81	0	0.0	29	19.7	57	38.7	38	26.3	16	11.1	3	3.4	3	1.8	146	100

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

never been married, and as a group they averaged a higher number of marriages with fewer children. The latter result is consistent with previous research which has shown that veterans tend to have fewer children than nonveterans (Card, 1983). However, the significantly higher number of divorces among the VETLIFE participants appears to contradict previous findings which demonstrate that those who have served in the military experience more stable marriages (Call & Teachman, 1988). It may be that other characteristics associated with the low-aptitude veterans had an impact in this regard (e.g., less education, lower income).

Veterans' Subjective Opinions

The evidence reviewed to this point does not paint an especially positive picture of the outcomes of Project 100,000 on the subsequent lives of its veterans. On nearly every measure considered, the PKs were either no better off, or actually worse off, than their civilian counterparts who never served in the military. One further question of interest is how the veterans themselves felt about their military experience. To address this issue, those who had separated from service were asked to indicate if they felt that being in the military had helped, hurt, or had no effect on their careers. Those who indicated that it had helped or hurt were asked to indicate specific ways in which they felt this was the case. In addition, all respondents were asked a general question regarding the impact of being in the military on their lives. These responses were recorded verbatim, content analyzed, and coded. An examination of these data in conjunction with other respondent characteristics provides insight into the perceptions of the Project 100,000 participants themselves regarding the success of the program.

Table 48 reveals that nearly 50 percent of the Project 100,000 veterans felt that the military had a positive effect on their subsequent careers. Only 14 percent indicated that it had damaging effects, while the remainder said that it had no impact. The binomial test results presented in Table B-17 confirm that significantly more respondents indicated that serving had a positive effect than said it had a negative effect. Blacks were more likely to say that being in the military had a positive effect than were nonblacks.

Table 48

Effect of Military on Career of Project 100,000 Sample, by Selected Characteristics

	Effect on Career								
	Helped		Hurt		No Effect		Total		
Characteristic	N[a]	%	N[a]	%	N[a]	%	N[a]	%	Chi Square Value
Race									
Nonblack	88	45.4	23	11.9	83	42.8	194	100	9.4***
Black	59	58.4	17	16.8	25	24.8	101	100	
Educational Status at Entry									
Nongraduate	64	40.8	30	19.1	63	40.1	157	100	14.3***
HS Graduate	83	60.1	10	7.2	45	32.6	138	100	
Total	147	49.8	40	13.6	108	36.6	295	100	

[a] Data are unweighted.

*** = $p < .01$.

Similar results emerged when high school graduates were compared with nongraduates (Table 48). Nearly the same proportion of the nongraduates (40 percent) said it hurt as said it helped. No relationship was found between responses to this question and how the individual entered service (drafted/enlisted) or whether he served in Vietnam.

When respondents were asked to cite specific ways in which military service helped their careers, the most frequently mentioned effects were maturity, training, and a sense of discipline which serving imparted. Maturity was the reason most often given by blacks and nonblacks, by graduates and nongraduates (Tables 49 and 50). Although the percentage of nonblacks citing educational assistance was higher than blacks, the reverse was true when it came to military training. Military training was also mentioned by a higher proportion of high school graduates than nongraduates.

Table 49

Reasons for Helpful Effects of Military Service on Post-Service Career as Reported by Project 100,000 Sample Separated From Service at Time of Survey, by Race

How Military Helped Career	Race			
	Nonblack		Black	
	N	%	N	%
Leadership	2	2.3	--	--
Maturity	33	38.4	22	37.2
Discipline	9	10.5	6	10.2
Ed. Assistance	9	10.5	1	1.6
Training	15	17.4	22	37.3
Motivation	2	2.3	--	--
Other	16	18.6	8	13.6
Total	86	100	59	100

Note: Respondents were asked "All things considered, do you think that your entire period of military service, including Reserve or Guard Duty, has helped, hurt, or had no effect on your career?" Respondents who answered military service helped their career were then asked "Why do you think it has helped?"

Table 50

Reasons for Helpful Effects of Military Service on Post-Service Career as Reported by Project 100,000 Sample Separated From Service at Time of Survey, by Education

How Military Helped Career	Educational Status				Total	
	Nongraduate		HS Graduate			
	N	%	N	%	N	%
Leadership	--	--	2	2.5	2	1.4
Maturity	26	40.6	29	35.8	55	37.9
Discipline	4	6.2	11	13.6	15	10.3
Ed. Assistance	6	9.5	4	4.9	10	6.9
Training	12	18.7	25	30.9	37	25.5
Motivation	2	3.1	--	--	2	1.4
Other	14	21.9	10	12.3	24	16.5
Total	64	100	81	100	145	100

Note: Respondents were asked "All things considered, do you think that your entire period of military service, including Reserve or Guard Duty, has helped, hurt, or had no effect on your career?" Respondents who answered military service helped their career were then asked "Why do you think it has helped?"

Among those who said their military service hurt their careers, difficulty finding a job and physical/emotional/family problems were the most cited reasons (Table 51). (These numbers were too small to allow for demographic breakdowns.)

Maturity was also the most often cited benefit when respondents were asked to indicate what impact serving in the military had on their lives in general (Table 52). Over a third of the sample said that it had no effect on their lives.

Table 51

Reasons for Harmful Effects of Military Service as Reported by Project 100,000 Sample

How Military Hurt Career	Total	
	N	%
Hard to Find Job	7	17.9
Physical Problems	10	25.6
Emotional Problems	10	25.6
Family Problems	1	2.6
Other	11	28.2
Total	39	100

Note: Respondents were asked "All things considered, do you think that your entire period of military service, including Reserve or Guard Duty, has helped, hurt, or had no effect on your career?" Respondents who answered military service hurt their career were then asked "Why do you think it has hurt?"

Table 52

Effect of Military Service as Viewed by Project 100,000 Sample

Effect of Military Service	Separated	
	N	%
Maturity	62	20.8
Discipline	9	3.0
Ed. Assistance	4	1.3
Training	14	4.7
Motivation	2	0.7
Hard to Find Job	9	3.0
Personal/Family/ Physical Problem	38	12.8
Other/Don't Know/ Refusal	46	15.4
No Effect	114	38.3
Total	298	100

Note: Primary response to "In general, what effect would you say military service has had on your life since leaving the military?"

So, despite the fact that the objective data provide little support for the contention that serving in the military provided benefits to these low-aptitude veterans, a substantial proportion of the respondents themselves felt that it was a positive experience. It may be that this outcome is evidence of a phenomenon first described by Aronson and Mills (1959). If one gives up a great deal or works very hard to achieve a particular goal (in this case to serve successfully in the military), then there must be positive aspects to, or outcomes from, that experience.

RESULTS: ASVAB MISNORMING VETERANS

Characteristics and Military Experiences

A decade after Project 100,000, the Services were again deluged by low-aptitude enlistees. Who were the Potentially Ineligibles of ASVAB misnorming fame? And what were their military experiences? According to the VETLIFE surveys, just about 10 percent remained on active duty 6 to 10 years later (Table 53). This represents a rather low retention rate as compared to the roughly 20 to 30 percent of an enlisted cohort expected to be on board after that interval (cf., Department of Defense, 1986).

Table 53

Potentially Ineligible Sample on Active Duty at Time of Survey

Military Status at Time of Survey	N	%
Active Duty	31	9.5
Separated	295	90.5
Total	326	100

Table 54 shows some pertinent characteristics of the Category IV youth who enlisted during the misnorming. Approximately 36 percent of the sample of erroneous enlistees were black--well above the proportion of blacks (i.e, 25 percent) among AFQT Category IV males in the 18- to 23-year-old population.[16] Nongraduates represented 46 percent of the sample, which matches the proportion of nongraduates in the general population of low-

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[16] This figure was calculated from the Profile of American Youth database, a component of the National Longitudinal Surveys of Youth Labor Force Behavior containing ASVAB scores.

Table 54

Potentially Ineligible Sample, by Military Status and Selected Characteristics

	Military Status at Time of Survey					
	Separated		Active Duty		Total	
Characteristic	N	%	N	%	N	%
Race						
Nonblack	195	66.1	14	45.2	209	64.1
Black	100	33.9	17	54.8	117	35.9
Educational Status at Entry						
Nongraduate	144	48.8	6	19.4	150	46.0
HS Graduate	151	51.2	25	80.6	176	54.0
Geographic Region						
Non-South	164	55.6	15	48.4	179	54.9
South	131	44.4	16	51.6	147	45.1
Age at Entry						
17	57	19.3	2	6.5	59	18.1
18	139	47.1	17	54.8	156	47.9
19	67	22.7	6	19.4	73	22.4
20	16	5.4	3	9.7	19	5.8
21	10	3.4	2	6.5	12	3.7
22	6	2.0	0	--	6	1.8
23	0	--	1	3.2	1	.3
Service						
Army	196	66.4	18	58.1	214	65.6
Navy	49	16.6	7	22.6	56	17.2
Air Force	12	4.1	2	6.5	14	4.3
Marine Corps	38	12.9	4	12.9	42	12.9
All	295	90.5	31	9.5	326	100

aptitude youth. It is interesting to note that of the fraction of PIs still on active duty, the majority were black, indicative of the relative attractiveness of the military for this minority group even after aptitude is controlled. Though a slight majority came from the nonsouth, a substantial proportion (45 percent) of the PIs came from southern states.

And, as expected, when they entered, most of the PIs were teenagers (i.e., 88 percent), with almost half enlisting at age 18.

The overwhelming majority of 1976 to 1980 Category IV accessions entered the Army (66 percent). The next highest percentage was found in the Navy (17 percent) and only a scant 4 percent were among the Air Force's enlisted ranks. These proportions are in line with the individual Services' manpower requirements and enlistment standards (cf., Eitelberg, Laurence, & Waters, 1984). The Army is the largest branch and generally has the least stringent entrance requirements. The Air Force, while not the smallest Service (the Marine Corps is), has the most stringent aptitude requirements. In fact, during the misnorming era, official Air Force standards would have precluded nongraduates in AFQT Category III and graduates below Category IVA from enlisting.

Though the VETLIFE surveys did not ask for the PIs' military specialties, this information can be gleaned from data on the population of Category IV personnel enlisted between 1976 and 1980, as provided by DMDC. Table 55 shows that about one-quarter of the PIs were assigned to infantry-type jobs. Approximately 21 percent were not in specific occupations (non-occupational) which would include prisoners, patients, students or trainees, and those who left service prior to assignment. So, roughly half of the PIs were in occupations that had a potential civilian counterpart. However, the rather gross occupational categorization prevents a determination of the nature of the specific duties (e.g., soft skill subspecialties of mechanical equipment repair) to which the PIs were assigned.

Table 55

Occupational Distribution for AFQT Category IV
Accessions Who Entered Service 1 January 1976 through 30 September 1980

DoD Occupational Area	N	%[a]
Infantry, Gunman, Seamanship	107,383	25.7
Electronic Equipment Repair	7,292	1.7
Communication & Intelligence	27,596	6.6
Medical & Dental	9,584	2.3
Other Technical	4,803	1.1
Functional Support & Administration	40,770	9.8
Electrical/Mechanical Equipment Repair	75,187	18.0
Craftsman	13,546	3.2
Service & Supply	44,864	10.7
Nonoccupational[b]	86,799	20.8
Total[c]	**417,824**	**100**

Source: Defense Manpower Data Center.

[a] May not sum to 100 due to rounding.

[b] Specific occupation not assigned.

[c] Excludes those with unknown occupational area.

How long did these young, predominantly Army, misnorming-era veterans serve? Table 56 shows that, on average, they served just about 3 years (mean = 33 months; standard deviation = 20 months; median = 36 months). Among those who separated from service by the time of interview, there were no statistically significant tenure differences by race, education status, or Service. A categorical look at military tenure is provided in Table 57. Of those separated, about 30 percent left the military before completing 2 years and 42 percent left before completing 3 years (the standard term of enlistment at this time). Clearly, the majority of PIs obtained at least one year of military training.

Table 56

Average Number of Months Served on Active Duty by Potentially Ineligible Sample Separated From Service at Time of Survey, by Selected Characteristics

Characteristic	Sample Statistics N[a]	Mean	Median	Standard Deviation	t/F Value
Race					
Nonblack	191	33	36	21	.8[ns]
Black	100	33	36	20	
Educational Status at Entry					
Nongraduate	143	31	36	21	1.8[ns]
HS Graduate	148	36	36	20	
Service					
Army	193	33	36	20	
Navy	49	34	36	20	
Air Force	12	26	22	17	.6[ns]
Marine Corps	37	35	36	21	
All	291	33	36	20	

[a] Does not include those for whom months served was missing (n = 4).

ns = Not Significant.

Table 57

Potentially Ineligible Sample Separated From Service at Time of Survey, by Length of Service

	Length of Service[a] ≤1 yr	1-2 yrs	2 yrs	2-3 yrs	3 yrs	3-4 yrs	4-5 yrs	5-6 yrs	>6 yrs	Unk[b]	Total
N	59	28	7	28	77	57	10	12	13	4	295
%[c]	20.3	9.6	2.4	9.6	26.5	19.6	3.4	4.1	4.5	--	100

[a] Length of service headings were chosen for ease of presentation and do not overlap as implied. Actual categories are as follows: less than or equal to 1; greater than 1 but less than 2; 2; greater than 2 but less than 3; 3; greater than 3 but less than or equal to 4; greater than 4 but less than or equal to 5; greater than 5 but less than or equal to 6; and greater than 6.

[b] Unknown length of service not included in percentage calculations.

[c] The percentages may not sum to 100 due to rounding.

The next set of tables examines some labor market characteristics of the Potentially Ineligibles subsequent to military service. As shown in Table 58, about 85 percent of those separated were employed, with somewhat over three-quarters engaged in full-time work; this represents 91 percent of those employed. Even if the 31 active duty sample members were added to the base, the unemployment rate would decrease only slightly from 15 percent to 13 percent. Thus, though the majority of the PIs were indeed employed, their unemployment rate does not compare favorably with the rate of 7.2 percent for the national population of 25- to 29-year-old males in 1986.[17] There were no significant employment status differences by race, educational status, months served in the military, or Service branch (Table 59).

Table 58

Employment Status of Potentially Ineligible Sample Separated From Service at Time of Survey

Employment Status	N	%
Full-Time Employed	217	77.5
Part-Time Employed	22	7.9
Total Employed	239	85.4
Unemployed	41	14.6
Total	280	100

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[17] This figure was obtained from the Bureau of Labor Statistics. Not included in the base or among the unemployed are "discouraged" workers--those who are out of work but have not looked for work in the last four weeks.

Table 59

Employment Status of Potentially Ineligible Sample Separated From Service at Time of Survey, by Selected Characteristics

	Employment Status				
	Employed		Unemployed		
Characteristic	N	%	N	%	Chi Square Value
Race					
Nonblack	159	87.4	23	12.6	1.2^{ns}
Black	80	81.6	18	18.4	
Educational Status at Entry					
Nongraduate	125	85.6	21	14.4	0.0^{ns}
HS Graduate	114	85.1	20	14.9	
Months of Service[a]					
<24 months	73	88.0	10	12.0	
24-35 months	28	82.4	6	17.6	3.6^{ns}
36-48 months	104	82.5	22	17.5	
49-96 months	32	94.1	2	5.9	
Service					
Army	160	86.5	25	13.5	
Navy	38	82.6	8	17.4	1.4^{ns}
Air Force	11	91.7	1	8.3	
Marine Corps	30	81.1	7	18.9	
All	239	85.4	41	14.6	

[a] Sums to less than total due to missing cases.

ns = Not Significant.

The PIs' mean annual income from wages alone was $13,050 (the median value was somewhat lower at $12,000) (Table 60). With farm and business income added to wage earnings, the mean income level was slightly higher at $13,613 per year (Table 61). A useful reference point for these income levels is the substantially higher mean of $20,721 (median = $19,123) for the national population of 25-to-29-year old males in 1985.[18] It is

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[18] Data obtained from the Bureau of Labor Statistics, unpublished tables from the March 1986, Current Population Survey. The veterans' income value is significantly different from the population value, t=-13.3.

Table 60

Annual Income From Wages of Potentially Ineligible Sample Separated From Service at Time of Survey, by Selected Characteristics

	Unadjusted Annual Income from Wages Only[a]				
Characteristic	N[b]	Mean	Median	Standard Deviation	t/F Value
Race					
Nonblack	166	13,719	12,400	9,038	-1.6[ns]
Black	91	11,829	10,000	9,420	
Educational Status at Entry					
Nongraduate	125	13,322	12,000	9,328	-.5[ns]
HS Graduate	132	12,792	12,000	9,107	
Service					
Army	166	13,201	12,000	9,433	
Navy	44	12,205	12,000	9,405	
Air Force	11	13,481	12,000	7,035	.2[ns]
Marine Corps	36	12,029	10,500	8,701	
All	257	13,050	12,000	9,201	

[a] In dollars.

[b] Unweighted frequency. Does not include respondents who indicated that they are employed but reported "0" income. Also one outlier (i.e., income value $200,000) was deleted.

ns = Not Significant.

Table 61

Annual Income From Wages and Farm or Business (FBI) of Potentially Ineligible Sample Separated From Service at Time of Survey, by Selected Characteristics

	Unadjusted Annual Wages and FBI[a]				
Characteristic	N[b]	Mean	Median	Standard Deviation	t/F Value
Race					
Nonblack	166	14,386	13,000	10,300	-1.6[ns]
Black	91	12,203	10,000	10,228	
Educational Status at Entry					
Nongraduate	125	13,694	12,000	9,748	-.1[ns]
HS Graduate	132	13,537	12,000	10,848	
Service					
Army	166	13,642	12,000	10,029	
Navy	44	14,422	12,000	13,039	.3[ns]
Air Force	11	14,209	12,000	7,703	
Marine Corps	36	12,309	11,000	8,632	
All	257	13,613	12,000	10,308	

[a] In dollars.

[b] Unweighted frequency. Does not include respondents who indicated that they are employed but reported "0" income. Also one outlier (i.e., income value $200,000) was deleted.

ns = Not Significant.

interesting that statistically significant income differences were not found between low-aptitude blacks and nonblacks. However, visual inspection of the median incomes for these groups suggests that there were proportionately more low wage earners among blacks than whites. As was found for employment status, annual income did not differ to any significant degree between PIs who had entered the military as graduates or nongraduates or among those who had served in the Army, Navy, Marine Corps, or Air Force. Furthermore, neither length of service nor elapsed time since military separation was significantly related to income, whether restricted to those employed full-time or for all separated PIs (Table 62 and Table C-1 in the appendix).

Table 62

Correlations of Annual Income With Months on Active Duty and Time Out of Service for Potentially Ineligible Sample Separated From Service at Time of Survey, by Employment Status

	Correlation Between Income and Months on Active Duty		Correlation Between Income and Time Out of Service	
Employment Status	Wages Only	Wages FBI[a]	Wages Only	Wages FBI[a]
Full-time	.06^{ns}	.06^{ns}	.06^{ns}	.05^{ns}
All[b]	.06^{ns}	.06^{ns}	.06^{ns}	.02^{ns}

[a] FBI -- Farm or Business Income.

[b] Includes those working full-time or part-time, and not working.

ns = Not Significant.

In brief, these AFQT Category IV men, who were disproportionately black, entered the military at age 18 and served, most likely, three years in infantry or soft skill jobs. Though the majority were employed, and in full-time jobs, as of 1986, one in seven was without a job. These low-aptitude men, in their mid- to late-twenties were earning about $13,000 per annum.

Comparison With Low-aptitude Nonveterans

Though certain common measures of economic well-being -- employment status and income -- were reported for the Potentially Ineligibles above, such figures are not readily interpretable without an adequate reference group. Comparing these figures to national employment and earnings data for similar age groups and time periods (as was done previously) indicates only that men who entered the military during the ASVAB "faux pas" are, to say the least, not among society's most prosperous. However, given their initial aptitude deficits, one would not expect them to have the rates of employment or earnings of the average man. Thus, to better gauge the impact of military service on the PIs' post-service lives, they are compared with low-aptitude counterparts who were never enlisted into the military.

Employment

Perhaps the most fundamental indicator of economic well-being is employment status. One's job is not only a source of income and security but, given that for most Americans of this age it is a pervasive activity, can also be a major source of satisfaction or dissatisfaction. Unemployment and perhaps underemployment are indeed major life stressors.

Table 63 suggests that, among PIs, there were 4 percent more part-time employees as compared to their nonveteran counterparts. Including the PIs still on active duty among the full-time workers revealed a slight tendency toward lower unemployment for the military group. However, it must be remembered that the nonveteran sample was interviewed about one to two years

Table 63

Employment Status for Potentially Ineligible and NLS 1979 Samples

	Employment Status							
	Full-Time		Part-Time		Not Working		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran								
PI Separated[b]	218	77.0	26	9.3	39	13.8	283	100
PI Separated and Active Duty	243	78.8	26	8.5	39	12.6	308	100
Nonveteran								
NLS 1979 in 1985	670	77.2	45	5.2	153	17.6	868	100

Chi-Square Statistics

	Effective Sample		
	Full-Time	Part-Time	Not Working
PI Separated	165	19	29
PI Separated and Active Duty	185	19	29
NLS 1979 in 1985	495	34	111

PI Separated vs. NLS	
Working vs. Not Working	1.6[ns]
Full-Time vs. Part-Time vs. Not Working	5.1[ns]
Full-Time vs. Part-Time	2.6[*]
Full-Time vs. Part-Time and Not Working	.04[ns]
PI Separated and Active Duty vs. NLS	
Working vs. Not Working	3.5[*]
Full-Time vs. Part-Time vs. Not Working	5.5[*]
Full-Time vs. Part-Time	1.6[ns]
Full-Time vs. Part-Time and Not Working	0.5[ns]

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Includes those serving in the reserves.

* = p < .10
ns = Not Significant.

earlier (i.e., in 1985). The fact that the NLS respondents were somewhat younger than the military sample members would tend to bias the results against them, since overall unemployment rates tend to be inversely related to age.[19]

Restricting the analysis to veterans who served at least 2 years in the military (and, thus, presumably had time to benefit from military training) did not change the overall pattern of the findings (Table 64). (Appendix Table C-2 shows employment status results with the PIs restricted to those who served 36 months.) In sum, low-aptitude veterans and nonveterans from the misnorming era were not found to be notably different in terms of their participation in the labor market.

There were no significant differences between the former military and civilian groups in the proportions employed in the private sector, employed by the government, or self-employed (Table 65). Around seven-eighths of these low-aptitude men worked for privately owned companies. More specific occupational information is provided in Table 66. The PIs did not differ significantly from their nonveteran counterparts in terms of the types of jobs held. Approximately half of each group were employed as craftsmen (e.g., construction trades), operators (e.g., metalworking machines, woodworking machines, paint spraying machines), repairers (e.g., mechanics), or precision production workers (e.g., shoe repairers, butchers, tool and die makers). (Appendix Tables C-3 and C-4 show additional occupational distributions for all and full-time workers.)

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[19] Since this age gap between the PI and NLS samples was relatively minor, analyses were not restricted to overlapping years as was done in the case of the PK comparisons with their nonveteran control group. Thus, a potential bias against the nonveteran group should be kept in mind.

Table 64

Employment Status for Potentially Ineligible Personnel Who Served 24+ Months and NLS 1979 Sample

	Employment Status							
	Full-Time		Part-Time		Not Working		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran								
PI Separated[b] Who Served 24 Months or More	140	73.3	23	12.0	28	14.7	191	100
Nonveteran								
NLS 1979 in 1985	670	77.1	45	5.2	153	17.7	869	100

Chi-Square Statistics

	Effective Sample		
	Full-Time	Part-Time	Not Working
PI Separated	106	17	21
NLS 1979 in 1985	495	34	113

PI Separated vs. NLS	
Working vs. Not Working	0.7^{ns}
Full-Time vs. Part-Time vs. Not Working	9.2^{*}
Full-Time vs. Part-Time	8.3^{***}
Full-Time vs. Part-Time & Not Working	1.0^{ns}

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Includes those serving in the reserves.

* = $p < .10$
*** = $p < .01$
ns = Not Significant.

Table 65

Class of Worker for Potentially Ineligible and NLS 1979 Samples

Sample	Class of Worker: Private Company N[b]	Private Company %	Government Employee N[b]	Government Employee %	Own Business[a] N[b]	Own Business[a] %	Total N[b]	Total %
Full-Time Workers								
PI Separated[c]	173	87.1	15	7.6	11	5.3	199	100
NLS 1979 in 1985	588	87.8	42	6.2	40	6.0	670	100
All Workers[d]								
PI Separated[c]	223	86.4	18	7.0	17	6.6	259	100
NLS 1979 in 1985	723	87.3	53	6.4	52	6.2	828	100

Chi-Square Statistics

	Effective Sample: Private	Government	Own Business
Full-Time Workers			
PI Separated	131	12	8
NLS 1979 in 1985	434	31	30
All Workers			
PI Separated	169	14	13
NLS 1979 in 1985	534	39	38

PI Separated vs. NLS	
Full-Time Workers: Private vs. Government vs. Own Business	0.4[ns]
All Workers: Private vs. Government vs. Own Business	0.1[ns]

[a] Includes employee owned-business and family business without pay.

[b] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[c] Includes those serving in the reserves.

[d] Includes full-time and part-time workers.

ns = Not Significant.

Table 66

Civilian Occupational Categories for Potentially Ineligible and NLS 1979 Samples

	Sample			
Civilian Occupational Categories[a]	PI Separated[b]		NLS 79 in 85	
	N[c]	%	N[c]	%
Professional, Technical, & Managerial	25	10.8	61	8.6
Sales, & Clerical & Administrative Support	27	12.0	80	11.2
Service, Private Household & Other	33	14.5	97	13.6
Farmers & Farm Managers, Farm Laborers & Foremen, & Laborers	26	11.5	123	17.2
Craftsmen, Operatives, Repair, & Precision Production	117	51.2	354	49.5
Total	229	100	716	100

Chi-Square Statistics

	Effective Sample	
	PI Separated	NLS 1979 in 1985
Professional...	19	45
Sales...	21	59
Service...	25	72
Farmers...	20	91
Craftsmen...	88	261
PI Separated vs. NLS Professional... vs. Sales... vs. Service... vs. Farmers... vs. Craftsmen...		3.6[ns]

[a] Occupational codes for the PI and NLS were taken from the 1970 and 1980 versions of the Census 3-digit Occupational Classification System, respectively. The two versions were equated and this produced nine categories which have been consolidated into five categories for analysis.

[b] Includes those serving in the reserves.

[c] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

ns = Not Significant.

For those veterans and nonveterans employed full time, no differences were found in the number of job-related benefits made available to them (Table 67). That is, most of their employers offered medical, life, and dental insurance, and paid vacation and sick leave.

Table 67

Number of Benefits Received for Full-Time Workers of the Potentially Ineligible and NLS 1979 Samples

	Number of Work-Related[a] Benefits Received			
Sample	N[b]	Mean	Median	Standard Deviation
PI Separated[c]	214	2.6	3.0	1.9
NLS 1979 in 1985	592	2.8	3.0	1.8

	t-Test Statistics			
	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PI Separated	162	1.9	597	- 1.4[ns]
NLS 1979 in 1985	437	1.7		

[a] Respondents were asked about the following benefits: Medical Insurance, Life Insurance, Dental Insurance, Paid Sick Leave, and Paid Vacation.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

ns = Not Significant.

A final employment-related variable is job satisfaction. Overall job attitudes are often linked to productivity, turnover, absenteeism, and tardiness either as a cause or an effect. Further, some would argue that regardless of the relationship to profitability to the employer, positive regard for the job is an important human resource goal. Table 68 shows that though the vast majority of both PIs and nonveterans (i.e., 79 and 88 percent, respectively, among all workers, and 80 and 89 percent, respectively, among just full-time workers) reported that they liked their job at least fairly well, a substantially greater proportion of former military members expressed dissatisfaction. In fact, the PIs were almost twice as likely as the nonveterans to dislike their jobs somewhat or very much. (In addition to this attitude dichotomy, Appendix Table C-5 shows the distribution within the four levels of job satisfaction.)

In summary, the former Service members showed no advantage over low-aptitude nonveterans in terms of employment status. The veterans of this era were not more likely than their civilian peers to be employed by the government. Most worked for the private sector. Further, though other aspects of their employment (e.g., employment benefits and type of occupation) were also similar, former servicemen reported less satisfaction with their jobs.

Income

The most important, or at least most analyzed measure of life success is level of income. Financial independence and security are the essence of relative advantage or disadvantage. Given the skill training and character building aspects of the military, one might expect that, all else equal, former military members would be better off monetarily than their low-aptitude nonmilitary peers. This hypothesis was not borne out by the data at hand.

As Table 69 shows, even prior to adjusting for the different survey years (PIs were interviewed in 1986-87 and the NLS in 1985) and the younger

Table 68

Job Satisfaction of Potentially Ineligible and NLS 1979 Samples

Sample	Like it very much or fairly well N[a]	Like it very much or fairly well %	Dislike it somewhat or very much N[a]	Dislike it somewhat or very much %	Total N[a]	Total %
Full-Time Workers						
PI Separated[b]	173	80.0	43	20.0	216	100
NLS 1979 in 1985	598	89.3	72	10.7	670	100
All Workers[c]						
PI Separated	222	79.3	58	20.7	280	100
NLS 1979 in 1985	736	88.1	99	11.9	835	100

Chi-Square Statistics

	Effective Sample Like	Effective Sample Dislike
Full-Time Workers		
PI Separated	130	33
NLS 1979 in 1985	441	53
All Workers		
PI Separated	167	44
NLS 1979 in 1985	543	73

PI Separated vs. NLS	
Full-Time Workers: Like vs. Dislike	9.3***
All Workers: Like vs. Dislike	10.2***

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Includes those serving in the reserves.

[c] Includes full-time and part-time workers.

*** = $p < .01$

Table 69

Unadjusted Annual Income From Wages for Potentially Ineligible and NLS 1979 Samples

		Unadjusted Annual Income From Wages[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	202	14,730	13,000	9,294
	All[e]	277	12,999	12,000	9,267
PI Separated and Active Duty	Full-Time	227	14,598	13,000	8,770
	All	301	13,039	12,000	8,866
Nonveteran					
NLS 1979 in 1985	Full-Time	637	14,782	12,000	9,578
	All	833	12,527	9,787	9,626

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	153	9,249	621	-0.1[ns]
NLS 1979 in 1985	470	9,334		
PI Separated & Active	171	8,841	640	-0.2[ns]
NLS 1979 in 1985	470	9,334		
All				
PI Separated	209	9,172	822	0.6[ns]
NLS 1979 in 1985	615	9,656		
PI Separated & Active	228	8,866	840	0.6[ns]
NLS 1979 in 1985	615	9,656		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

age at the time of interview for the nonveterans, there were no significant differences in annual wages. Once the data for the nonveterans were adjusted upward to compensate for inflation and age, the differences remained statistically nonsignificant and indeed appeared inconsequential (Table 70).

In 1985 dollars, these young men in their mid to late 20s were making, on average, about $13,000. Those who were employed full-time were making slightly more at around $15,000 per year. As Table 71 shows, including farm and/or business income raised the earnings only slightly, with still no difference between those who served and those who did not. (Unadjusted earnings figures with farm/business income added are shown in Appendix Table C-6).

Though, as reported in the previous section, length of military service was not found to be related to the PIs' earnings, for demonstration purposes income differences were examined between veterans who served at least two years and nonveterans. This period of time would presumably enable both basic and skill training to occur. It can be seen from Table 72 that the PI/NLS differences remained nonsignificant, with only about $350, on average, separating the earnings (i.e., wages and farm/business income) levels for "all" respondents and just $73 difference between the annual earnings of veterans and nonveterans employed full time. When the earnings of PIs with at least 36 months of service (i.e., a typical enlistment term at the time they were in the military) were compared to nonveterans, the former were once again not shown to be earning significantly more. Thus, even when the "quitters" and the undertrained are selectively weeded out of only the military sample, veterans were not found to be economically more

Table 70

Adjusted Annual Income From Wages for Potentially Ineligible and NLS 1979 Samples

		Adjusted Annual Income From Wages[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	202	14,564	13,000	9,229
	All[e]	277	12,859	11,592	9,194
PI Separated and Active Duty	Full-Time	227	14,433	13,000	8,707
	All	301	12,899	11,760	8,796
Nonveteran					
NLS 1979 in 1985	Full-Time	637	15,181	12,252	9,881
	All	833	12,862	10,124	9,920

	t-Test Statistics			
	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	153	9,183	621	-0.7[ns]
NLS 1979 in 1985	470	9,334		
PI Separated & Active	171	8,778	640	-0.9[ns]
NLS 1979 in 1985	470	9,629		
All				
PI Separated	209	9,100	822	-0.0[ns]
NLS 1979 in 1985	615	9,952		
PI Separated & Active	228	8,797	454	-0.1[ns]
NLS 1979 in 1985	615	9,952		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table 71

Adjusted Annual Income From Wages and Farm or Business (FBI) for Potentially Ineligible and NLS 1979 Samples

Sample	Employment Status	Adjusted Annual Income From Wages and FBI[a]			
		N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	202	15,479	13,720	11,003
	All[e]	277	13,529	11,760	10,652
PI Separated and Active Duty	Full-Time	227	15,293	13,720	10,368
	All	301	13,547	12,000	10,181
Nonveteran					
NLS 1979 in 1985	Full-Time	652	15,582	12,252	11,324
	All	828	13,314	10,156	11,088

	t-Test Statistics			
	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	153	10,949	632	-0.1[ns]
NLS 1979 in 1985	481	10,948		
PI Separated & Active	171	10,453	650	-0.3[ns]
NLS 1979 in 1985	481	10,948		
All				
PI Separated	209	10,544	833	0.2[ns]
NLS 1979 in 1985	625	11,054		
PI Separated & Active	228	10,182	851	0.3[ns]
NLS 1979 in 1985	625	11,054		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table 72

Adjusted Annual Income From Wages and Farm or Business (FBI) for Potentially Ineligible Personnel Who Served 24+ Months and NLS 1979 Sample

		Adjusted Annual Income From Wages and FBI[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	128	15,655	13,360	10,866
	All[e]	185	13,663	11,659	10,357
Nonveteran					
NLS 1979 in 1985	Full-Time	652	15,582	12,252	11,324
	All	848	13,314	10,156	11,088

	t-Test Statistics			
	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	98	10,986	575	0.1[ns]
NLS 1979 in 1985	481	10,948		
All				
PI Separated	140	10,326	764	0.3[ns]
NLS 1979 in 1985	625	11,054		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

prosperous. (Appendix Tables C-7 through C-13 present other adjusted and unadjusted income analyses with the PIs restricted to 24 and 36 months of service.)

Aside from job-related earnings, sample members were asked about other sources of income such as savings interest, dividends, social security, and the like. Combining figures for wages (and/or farm or business income) with monies from these additional sources yields total income. For analysis of this financial variable, samples were disaggregated by marital status since the survey questions regarding other sources of income combined the values for respondent and spouse. Thus, to offset variations in "other" income due to potential differences in marital status between the samples, it is best to focus on the married and divorced/separated respondents. Table 73 shows the increasingly familiar pattern of no significant differences in total income. Those PIs who were married or divorced had a mean total income of $15,974 compared with $16,716 for nonveterans. (Appendix Tables C-14 through C-16 show additional total income PI/NLS comparisons -- prior to income adjustments and for full-time workers only, with and without adjustments.)

From the results of annual income analyses, it appears that no matter which way you look at it, there was no apparent advantage for veterans. In terms of earning power, they did neither better nor worse than low-aptitude youth who never served. Their total income was also not greater than those who remained civilians.

Table 73

Adjusted Total Annual Income for All Workers of the Potentially Ineligible and NLS 1979 Samples

Sample	Marital Status	Total Income[a] N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c] and Active Duty	Married & Div/Sep	151	15,974	15,000	12,435
	All	278	14,061	11,743	12,128
Nonveteran					
NLS 1979 in 1985	Married & Div/Sep	265	16,716	13,560	10,929
	All	832	13,431	10,160	11,060

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Married & Div/Sep				
PI Separated & Active	114	11,877	308	- 0.6[ns]
NLS 1979 in 1985	196	10,532		
All				
PI Separated & Active	210	11,911	822	0.7[ns]
NLS 1979 in 1985	614	11,087		

[a] Total income = respondent's wages and farm or business income x adjustment factor plus respondent's or wife's money from interest on savings, dividends, social security, worker's compensation, VA benefits, pension annuities, rental income, royalties, and other sources, in dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

ns = Not Significant.

Other Economic Indicators

In addition to comparing the low-aptitude samples in terms of positive earnings, the degree of reliance on public assistance was also assessed. Table 74 indicates that among PIs and NLS respondents who were married or divorced, about 14 percent and 16 percent, respectively, had received such welfare benefits in the past year. These differences were not of consequence. The significant trend between veterans and nonveterans unrestricted by marital status should be interpreted with caution, given potential differences in the marital status between the samples. Greater reliance on welfare may be a function of marital status and/or dependents.

Unemployment benefits were not so encumbered by marital status. That is, the survey response did not include data for the spouse. About 17 percent of the low-aptitude military separatees received unemployment compensation during the year before the survey, compared with 13 percent of those who had never served in the military (Table 75).

The final measure of financial dependence is monies from disability insurance. Table 76 shows that there were no differences in the receipt of disability insurance, with about 6 percent of each group as claimants.

So in sum, there is no evidence that the Potentially Ineligibles exchanged their human capital for economic capital to any greater or lesser extent than youth who were similarly cognitively disadvantaged but did not serve. Low-aptitude youth who enlisted during the peacetime conditions of the late 1970s, while they did not have higher incomes, were no less reliant on government subsidies. In short, the economic verdict is -- no effect.

Table 74

Receipt of Welfare Benefits for Potentially Ineligible and NLS 1979 Samples

Sample	Marital Status	Welfare Benefits[a]					
		Benefits		No Benefits		Total	
		N[b]	%	N[b]	%	N[b]	%
Veteran							
PI Separated and Active Duty	Married & Div/Sep[c]	24	13.6	154	86.4	179	100.0
	All	41	12.8	280	87.2	321	100.0
Nonveteran							
NLS 1979 in 1985	Married & Div/Sep[c]	45	16.0	236	84.0	280	100.0
	All	79	9.0	800	91.0	879	100.0

Chi-Square Statistics

	Effective Sample	
	Benefits	No Benefits
PI Separated and Active Duty		
Married & Div/Sep	18	117
All	31	212
NLS 1979 in 1985		
Married & Div/Sep	33	174
All	58	590

PI Separated and Active Duty vs. NLS	
All: Benefits vs. No Benefits	2.9*
Married/Div/Sep: Benefits vs. No Benefits	0.4ns

[a] Welfare sources include Aid to Families with Dependent Children (AFDC), food stamps, Supplemental Security Income (SSI), or any other public assistance.

[b] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[c] Div/Sep = Divorced or Separated.

* = p < .10
ns = Not Significant.

Table 75

Receipt of Unemployment Compensation for Potentially Ineligible and NLS 1979 Samples

	Unemployment Benefits					
	Benefits		No Benefits		Total	
Sample	N[a]	%	N[a]	%	N[a]	%
Veteran						
PI Separated and Active Duty	56	17.2	268	82.8	324	100
Nonveteran						
NLS 1979 in 1985	116	13.2	761	86.8	878	100

Chi-Square Statistics

	Effective Sample	
	Benefits	No Benefits
PI Separated and Active Duty	42	203
NLS 1979 in 1985	86	562
PI Separated and Active Duty vs. NLS Receive Benefits vs. Don't Receive Benefits		2.2[ns]

[a] Weighted frequency produced by demographically equating the military and civilian samples.

ns = Not Significant.

Table 76

Veterans Benefits[a], Workers Compensation, and Disability for Potentially Ineligible and NLS 1979 Samples

	Veterans Benefits/Workers Comp/Disability					
	Received Benefits		Didn't Receive Benefits		Total	
Sample	N[b]	%	N[b]	%	N[b]	%
Veteran						
PI Separated and Active Duty	21	6.5	305	93.5	326	100
Nonveteran						
NLS 1979 in 1985	50	5.6	828	94.4	878	100

Chi-Square Statistics

	Effective Sample	
	Received Benefits	Didn't Receive Benefits
PI Separated and Active Duty	16	230
NLS 1979 in 1985	37	611
PI Separated and Active Duty vs. NLS Received Benefits vs. Did Not Receive Benefits		0.2[ns]

[a] Other than education benefits.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

ns = Not Significant.

Education and Training

Though related to economic success, participation in education and training programs provides a more social look at the effects of military service. The mean number of grades of regular school completed by the PIs and NLS civilians was 11.4 and 11.6, respectively. Though the means were very close and the medians (at 12 years) were identical, significance testing suggested that as a group, nonveterans had acquired somewhat more years of education (see Appendix Table C-17). Table 77 further illuminates these findings by presenting the proportions in various educational categories from less than high school graduation to the college level. About 58 percent of the military group (i.e., separated and active) had completed at least high school. Significantly more (i.e., 69 percent) of the low-aptitude civilians had received a high school diploma. Also, a far greater percentage of NLS civilians had attended college (about 17 percent, with about 3 percent completing their college education). Among the PIs, only about 10 percent reported having gone to college, with only about 1 percent completing their degree (Table 77).

Traditional academics, though perhaps the most common and lucrative, is not the only means to increase human capital. Vocational or technical training is another educational avenue which veterans and nonveterans may differentially pursue. Table 78 shows that the PIs were slightly but nonsignificantly more likely to participate in training outside of regular school. About one-third of all low-aptitude youth (regardless of veteran status) had participated in such training. The next table (Table 79) shows that among those who received vocational/technical training, former military

Table 77

Highest Level of Education Completed for Potentially Ineligible and NLS 1979 Samples

	Highest Level of Education Completed									
	Less Than High School		High School		Some College		College+		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran										
PI Separated[b]	137	45.6	135	45.2	25	8.3	3	0.9	300	100
PI Separated and Active Duty	138	42.5	155	47.7	29	9.0	3	0.8	325	100
Nonveteran										
NLS 1979 in 1985	272	31.5	445	51.7	123	14.3	22	2.5	862	100

Chi-Square Statistics

	Effective Sample			
	< HS	High School	Some College	College+
PI Separated	103	102	19	2
PI Separated and Active Duty	104	117	22	2
NLS 1979 in 1985	200	329	91	16

PI Separated vs. NLS	
Less Than HS vs. HS vs. Some College vs. College+	17.8***
Less Than HS vs. HS & Some College & College+	14.6***
Less Than HS & HS vs. Some College & College+	7.8***
PI Separated and Active Duty vs. NLS	
Less Than HS vs. HS vs. Some College vs. College+	13.1***
Less Than HS vs. HS & Some College & College+	9.5***
Less Than HS & HS vs. Some College & College+	6.9***

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Includes those serving in the reserves.

*** = $p < .01$

Table 78

Participation in Training for Potentially Ineligible and NLS 1979 Samples

	Participated in Training[a]					
	Participated		Did Not Participate		Total	
Sample	N[b]	%	N[b]	%	N[b]	%
Veteran						
PI Separated[c]	85	34.1	164	65.9	248	100
PI Separated and Active Duty	86	33.8	168	66.2	253	100
Nonveteran						
NLS 1979 in 1985	235	28.2	599	71.8	834	100

Chi-Square Statistics

	Effective Sample	
	Participated	Did Not Participate
PI Separated	124	64
PI Separated and Active Duty	127	65
NLS 1979 in 1985	442	173

PI Separated vs. NLS Participated vs. Did Not Participate	2.4^{ns}
PI Separated and Active Duty vs. NLS Participated vs. Did Not Participate	2.2^{ns}

[a] Participation in training in the last five years, excluding regular school. Though military training was subsumed under this survey question, through responses to a subsequent item those who received military training were not included as participants.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

ns = Not Significant.

members were more likely than nonveterans to do so under the auspices of the government, though the majority received non-government sponsored training.

Table 79

Government-Sponsored Training for Potentially Ineligible and NLS 1979 Samples Who Participated in Training

Sample	Government-Sponsored Training: Yes N[a]	Yes %	No N[a]	No %	Total N[a]	Total %
Veteran						
PI Separated[b]	19	28.6	48	71.4	67	100
PI Separated and Active Duty	20	29.6	48	70.4	68	100
Nonveteran						
NLS 1979 in 1985	5	2.0	230	98.0	235	100

Chi-Square Statistics

	Effective Sample: Received Training	Did Not Receive
PI Separated	15	36
PI Separated and Active Duty	15	36
NLS 1979 in 1985	3	170
PI Separated vs. NLS Received Training vs. Did Not Receive Training		37.7***
PI Separated and Active Duty vs. NLS Received Training vs. Did Not Receive Training		39.7***

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Includes those serving in the reserves.

*** = $p < .01$

One might expect the veterans' education level and participation in vocational training to be substantially higher, given that educational assistance is offered to military veterans. Some of the PIs would have been eligible for the generous and noncontributory GI Bill which provided funding for up to 48 months of education. Those who enlisted after 31 December 1976 were eligible to make monthly contributions with 2:1 matching by the government under the Veterans' Educational Assistance Program (VEAP). Table 80 suggests that of all the PIs, just under 10 percent enrolled in and later benefitted from such programs. It appears that educational benefits were relatively underutilized, which is not unexpected given that VEAP participation was notably low, and the disadvantaged tend not to enroll insuch programs. However, the figure of 8.5 percent does stand in marked contrast to the finding that none of the NLS sample members reported receiving (nonmilitary) educational assistance.

Table 80

Potentially Ineligible and NLS 1979 Samples Receiving Educational Benefits

	Educational Benefits[a]					
	Receive Benefits		Don't Receive Benefits		Total	
Sample	N[b]	%	N[b]	%	N[b]	%
Veteran						
PI Separated[c] and Active Duty	28	8.5	298	91.5	326	100
Nonveteran						
NLS 1979 in 1985	0	--	878	100.0	878	100

[a] Educational benefits refers to use of GI Bill or VEAP or other scholarships, fellowships, or grants. The question referred to either respondent's or wife's receipt of such benefits and may therefore be an overestimate.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

In contrast to the findings for the economic measures of success, there were significant differences between the PI and NLS sample members in terms of level of education. Unfortunately, such findings were in favor of the nonveterans. Participation in nonmilitary vocational/technical training did not compensate for this finding, since veterans were not more likely than nonveterans to participate in such training.

Marital and Family Status

Family patterns provide yet another measure of the degree of life success. Following a normative pattern with regard to marriage and parenthood is often related to economic and social outcomes (Call & Teachman, 1988). Generally, marital turmoil can be indicative of immaturity or psychological instability. One might expect that military members would have delayed entry into marriage and that exposure to important responsibilities would carry over into more stable marriages. Unfortunately, depicting the family course was not possible. Rather, a snapshot of these personal aspects is provided.

Table 81 shows the marital status of low-aptitude veterans and nonveterans at the time of surveys. Only about one-third of the military sample had never been married as compared with three-fifths of the nonmilitary sample. Though significantly more PIs than NLS respondents were married (i.e., about 50 percent vs. 34 percent, respectively), even more striking was the relatively high percentage divorced among PIs (i.e., PIs, 16 percent; NLS, 5 percent). Excluding those who had never been married results in a divorce rate of about 24 percent for the PIs and 13 percent for the nonveterans.

Table 81

Marital Status of Potentially Ineligible and NLS 1979 Samples

	Marital Status									
	Married		Widowed		Divorced/ Separated		Never Married		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran										
PI Separated[b]	150	49.9	3	1.0	49	16.3	98	32.7	301	100
PI Separated and Active Duty	167	51.3	3	1.0	53	16.2	103	31.6	326	100
Nonveteran										
NLS 1979 in 1985	269	33.6	1	0.1	40	5.0	490	61.2	801	100

Chi-Square Statistics

	Effective Sample			
	Married	Widowed	Div/Sep	Never Married
PI Separated	114	2	37	74
PI Separated and Active Duty	126	2	40	78
NLS 1979 in 1985	199	1	30	362

PI Separated vs. NLS	
Married & Widowed vs. Div/Sep vs. Never Married	63.2***
Never Married vs. Married & Widowed & Div/Sep	53.5***
PI Separated and Active Duty vs. NLS	
Married & Widowed vs. Div/Sep vs. Never Married	70.0***
Never Married vs. Married & Widowed & Div/Sep	61.1***

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Include those serving in the reserves.

Note: Married vs. Widowed vs. Div/Sep vs. Never Married comparisons can not be interpreted due to small cell sizes.

*** = $p < .01$

There were corresponding statistically significant differences between veterans and nonveterans in terms of the number of children fathered (PI $\bar{X}$ = 1.1; NLS $\bar{X}$ =.6; $t = -5.5$, $p<.01$; see Appendix Table C-18). As Table 82 shows, most nonveterans had no children, while the majority of veterans had at least one child and, in general, larger "family" sizes. Though the one- to two-year age gap would make the PIs slightly older at time of survey, it is doubtful that having concordant ages would disrupt this pattern. Overall, it would appear that military service did not delay marriage and parenthood -- providing for security or at least less marital dissolution. Service was not shown to be favorably related to social responsibility and maturity as indexed through marital and family status.

Table 82

Number of Children Fathered by Potentially Ineligible and NLS 1979 Samples

	Number of Children Fathered											
	0		1		2		3		4 or more		Total	
Sample	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N[a]	%
PI Separated and Active Duty	135	41.5	76	23.3	83	25.6	24	7.4	7	2.3	325	100
NLS 1979 in 1985	513	58.4	210	23.9	126	14.3	28	3.2	2	.2	879	100

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentage may not sum to 100 due to the effects of weighting and rounding.

Veterans' Subjective Opinions

The VETLIFE surveys afforded the opportunity not only to compare veterans to nonveterans along economic and social dimensions, but to solicit the Potentially Ineligibles' opinions of the effects of military service on their careers and lives. How did they perceive their military experiences once they returned to civilian life?

First, as Table 83 attests, about 21 percent of the misnorming-era veterans indicated that there was positive transfer of job skills from the military to the civilian sector. Put another way, the majority were not doing the same work in their civilian job as they had while in service. Nevertheless, about one-half of the PIs felt that the military had a positive effect on their post-service career. Around 10 percent thought the military hurt their later civilian career opportunities and about 38 percent reported that the military did not affect them one way or another (Table 84). (Appendix Table C-19 shows the results of binomial probability tests applied to these data to help determine where the significant differences lie.)

Table 83

Potentially Ineligible Sample
Separated From Service at Time of Survey
Doing the Same Work Now as in the Military

Doing Same Work Now as Did in Military	N	%
Yes	46	21.2
No	171	78.8
Total	217	100.0

Table 84

Effect of Military on Post-Service Career as Reported by Potentially Ineligible Sample Separated From Service at Time of Survey, by Race and Educational Status

	Effect on Career								
	Helped		Hurt		No Effects		Total		
Characteristic	N[a]	%	N[a]	%	N[a]	%	N[a]	%	Chi Square Value
Race									
Nonblack	102	52.3	18	9.2	75	38.5	195	100	.1^{ns}
Black	52	52.0	10	10.0	38	38.0	100	100	
Educational Status at Entry									
Nongraduate	74	51.4	13	9.0	57	39.6	144	100	.2^{ns}
HS Graduate	80	53.0	15	9.9	56	37.1	151	100	
All	**154**	**52.2**	**28**	**9.5**	**113**	**38.3**	**295**	**100**	

[a] Data are unweighted.

ns = Not Significant.

For those who thought that military experience was beneficial, most indicated it was because of increased maturity and training (i.e., 38 percent and 35 percent, respectively). The relatively few others mentioned benefits such as discipline, motivation, educational assistance, and leadership. For the small proportion who said that the military had a deleterious effect, most (67 percent) offered difficulty in finding a job as the reason (Table 85). It is interesting to note that although blacks and nonblacks responded very similarly as to the specific reasons military service was helpful, blacks were more likely to include discipline as a specific positive effect on their career (Table 86).

Table 85

Reasons for Helpful and Hurtful Effects of
Military Service on Post-Service Career as
Reported by Potentially Ineligible Sample
Separated From Service at Time of Survey

Reasons for Helpful or Hurtful Effects					
How Military Helped Career[a]	N	%	How Military Hurt Career[b]	N	%
Leadership	3	2.0	Hard to Find Job	18	66.7
Maturity	58	37.9	Physical Problems	1	3.7
Discipline	14	9.2	Emotional Problems	2	7.4
Ed. Assistance	5	3.3	Family Problems	1	3.7
Training	54	35.3	Other	5	18.5
Motivation	6	3.9			
Other	13	8.5			
Total[c]	153	100	Total[d]	27	100

[a] Respondents were asked "All things considered, do you think that your entire period of military service, including Reserve or Guard Duty, has helped, hurt, or had no effect on your career?" Respondents who answered military service helped their career were then asked "Why do you think it has helped?"

[b] Respondents were asked "All things considered, do you think that your entire period of military service, including Reserve or Guard Duty, has helped, hurt, or had no effect on your career?" Respondents who answered military service hurt their career were then asked "Why do you think it has hurt?"

[c] Excludes those who said that the military hurt or had no effect on their career, thus they did not respond to the question "Why do you think it has helped?"

[d] Excludes those who said that the military helped or had no effect on their career, thus they did not respond to the question "Why do you think it has hurt?"

Table 86

Reasons for Helpful Effects of Military Service on Post-Service Career as Reported by Potentially Ineligible Sample Separated From Service at Time of Survey, by Race

How Military Helped Career[a]	Race			
	Nonblack		Black	
	N	%	N	%
Leadership	1	1.0	2	3.6
Maturity	40	39.6	18	32.7
Discipline	4	4.0	10	18.2
Ed. Assistance	4	4.0	1	1.8
Training	38	37.6	16	29.1
Motivation	3	3.0	3	5.5
Other	10	10.0	3	5.5
Total[b]	101	100	55	100

[a] Respondents were asked "All things considered, do you think that your entire period of military service, including Reserve or Guard Duty, has helped, hurt, or had no effect on your career?" Respondents who answered military service helped their career were then asked "Why do you think it has helped?"

[b] Excludes those who said that the military hurt or had no effect on their career, thus they did not respond to the question "Why do you think it has helped?"

The ASVAB misnorming-era veterans were also asked: "In general, what effect would you say military service has had on your life since leaving the military?" Though the question was intended to be broader in nature (as opposed to restricted to effects on career), it elicited perceptions similar to those described immediately above. That is, positive feelings outweighed negative feelings, and the most common single response category aside from "no effect" was maturity (Table 87).

Table 87

Overall Effect of Military Service on Post-Service Life as Reported by Potentially Ineligible Sample Separated From Service at Time of Survey

Effect of Military Service[a]	Only Primary Response[a] N	Only Primary Response[a] %	Multiple Responses[b] N	Multiple Responses[b] %
Leadership	1	0.3	1	0.3
Maturity	68	23.1	79	23.7
Discipline	11	3.7	15	4.5
Ed. Assistance	3	1.0	4	1.2
Training	19	6.4	27	8.1
Motivation	4	1.4	5	1.5
Money	3	1.0	5	1.5
Hard to Find Job	13	4.4	18	5.4
Family/Physical Problem	16	5.4	18	5.4
Other	27	9.2	31	9.3
No Effect	128	43.4	129	38.6
Don't Know/ Missing	2	0.7	2	0.6
Total	295	100	334	100

[a] Primary response to "In general, what effect would you say military service has had on your life since leaving the military?"

[b] Multiple responses (up to three responses coded per individual) coded for each individual answering "In general, what effect would you say military service has had on your life since leaving the military?"

The Potentially Ineligibles' generally positive perceptions of the effects of military service were interesting particularly in light of the fact that analyses of their levels of employment, income, and education did not show them to be advantaged relative to nonveterans of similar ability. That is, in contrast to the more objective measures of how the military affected their careers and lives, a great number of the low-aptitude veterans perceived their experiences positively.

EFFECTS OF MILITARY SERVICE ON LOW-APTITUDE MEN: SUMMARY AND CONCLUSIONS

Apparently, Project 100,000 was less than successful in its stated goal of providing low-aptitude and disadvantaged youth an avenue for upgrading their skills and potential through military service. In virtually every comparison drawn between the veteran and nonveteran samples, the civilians fared equally well or better. Although the Potentially Ineligibles were found to be functioning at the same level as their civilian counterparts, being a veteran did not prove to provide much, if any, advantage. Before the implications of these findings are discussed, the major results are summarized.

Project 100,000

Very few (4.2 percent) of the Project 100,000 (PK) participants were still on active duty at the time of the survey. Nearly half of the sample was drafted, and the average tenure in the military was 25 months. Those who enlisted and those who entered the Air Force stayed significantly longer than draftees and members of the other Services. Fifty-six percent of the sample served some time in Vietnam, for an average duration of 10 months.

When current employment and income were examined in conjunction with selected demographic and military service characteristics, blacks were more likely to be unemployed and earned significantly less than nonblacks. Neither employment status nor earnings were related to variables such as military occupation, tenure, branch, or the length of time since separation.

Comparisons of the Project 100,000 participants with the civilian samples showed no overall differences in regard to the percentage of each working full- or part-time or unemployed. When the samples were restricted to those of the same age at the time of the survey, however, it was found that a higher proportion of Project 100,000 veterans were unemployed as compared to nonveterans with similar characteristics. Veterans were more likely to work for the government, while those who never served were more often in the private sector. Few differences were found in the occupations of each group, or in their job stability.

Three income measures were examined (hourly pay, total household income, and yearly earnings), and in each case the nonveterans were found to be making significantly more than their veteran counterparts. Comparisons of yearly earnings, for instance, showed that nonveterans' incomes ranged from $4,000 to $7,000 more than the PKs, depending on the subgroups compared and the sources of income included in the analysis. No major differences were found in regard to other economic indicators, such as whether welfare or unemployment benefits were received in the year previous to the survey, or in the types of benefits made available to the respondents by their employers.

Significant differences were found in regard to education and training, with those who never served in the military somewhat better educated and more likely to have participated in a training program of some kind. When those low-aptitude veterans and nonveterans who had entered training were compared in regard to the type received or the likelihood that they completed the program, no differences emerged.

Comparisons of marital status revealed no overall differences, with about 75 percent of both samples currently married. However, when only those who were the same age at the time of the survey were included in the analysis, it was found that the PKs were more likely to be divorced and that their average number of marriages was significantly higher. At the same time, nonveterans had, on average, more children than did veterans.

Finally, it was found that despite the lack of evidence indicating positive effects resulting from military service, a substantial proportion (50 percent) of the veterans felt that having served had a positive effect on their careers. They cited maturity, discipline, and training as the major benefits which they felt resulted from their military experience.

ASVAB Misnorming

The low-aptitude youth who voluntarily served under the peacetime conditions of the late 1970s--the Potentially Ineligibles--seemed to have fared a bit better than Project 100,000 participants. However, they too were not found to be better off economically, educationally, or socially than their nonveteran peers.

Scoring errors on the enlistment screening test between 1976 and 1980 resulted in an anonymous influx of disadvantaged teenagers (i.e, predominantly 18- and 19-year-olds). After serving an average of 3 years, their subsequent economic standing in the civilian labor market was not terribly impressive. As of 1986, about 15 percent of these former Servicemen were unemployed. On average, these 23- to 28-year-old men earned just under $14,000 in 1985 (median value = $12,000). The amount of time they served in the Armed Forces was not related to employment status or income. Furthermore, their labor market participation and earnings (whether counting wages alone or including various other income sources) were no different than their low-aptitude nonveteran counterparts. These veterans and nonveterans of low cognitive ability were also equally reliant on public assistance (about 1 in 6).

The low-aptitude veterans of the misnorming era held jobs similar to nonveterans (e.g., craftsmen, machine operators and repairers, and precision production workers) with similar available benefits. Though most reported liking their jobs, there was more job dissatisfaction among the Potentially Ineligibles. Apparently there was also more marital discontent among the PIs, as reflected in their higher divorce rates.

Though their employment and financial situations were alike, the erroneous enlistees had acquired less formal education than those who had never left the civilian sector. About 58 percent of the PIs had at least a high school diploma, compared to 69 percent for the nonveterans. Furthermore, though educational benefits were made available to the veterans, less than 10 percent used them. A smaller percentage of PIs (about 10 percent) than NLS sample members went on to college, with less than 1 percent completing their degree. They reported participating in vocational/technical education outside of the military to the same degree as low-ability nonveterans (i.e., about one-third).

Economically the PIs were not a cut above. A noteworthy proportion were unemployed. Their incomes would not make them prosperous. Educationally, they lagged behind their nonveteran peers. Yet, just over half of the Potentially Ineligibles said favorable things about their military experience. They reported that it helped their careers and lives through the maturity and training they gained.

A Comparison of the Eras

Although the data presented here cannot be considered good news for those low-aptitude individuals who served in the military during Project 100,000 and the ASVAB misnorming, it is encouraging from a research perspective that there was some convergence between results of the two surveys. In both cases it was found that being in the military provided little, if any, advantage to low-aptitude veterans as compared to their civilian counterparts who never served. In terms of their subsequent life experiences, while the PIs appeared to be no worse off as a result of having served, the same cannot be said for Project 100,000 veterans, who appeared somewhat more disadvantaged than their nonveteran counterparts. This leads to a question with potentially important policy implications: What was it about the experiences and/or characteristics of the two groups which resulted in this distinction in their post-service lives?

A number of differences exist between the eras in which the groups of veterans were originally accessed. Perhaps the most important of these is the nature of the military mission during the two periods. Project 100,000 was initiated at a time of ever-increasing involvement on the part of the United States in the Vietnam conflict. The PIs, on the other hand, served in times of relative peace. As mentioned earlier, a number of research studies have demonstrated that it was the Vietnam veteran, particularly those who served in combat, who seemed to have had the greatest trouble reassimilating to and succeeding in the civilian world upon separation. This body of research, in combination with the fact that over half of the PK sample actually served in Southeast Asia, may help to explain their failure to keep up with their civilian counterparts over the long haul.

The different footing of the Services during these two periods may have also had other adverse effects on those who served during Project 100,000. It is important to keep in mind that, while all of the Potentially Ineligibles were volunteers, nearly half of the PKs were drafted. It is likely that the motivational levels of the two groups were somewhat different as a result. Those who enter service by choice are most likely interested in obtaining training and other benefits which they perceive as accruing from the experience. There is a realization then that some effort must be made in order to reap those benefits. Those who are brought in against their will may simply want to survive that period in their lives and get out. Although there is little evidence that the PIs actually benefitted from serving, the fact that their (on average) three years in the military did not cost them anything suggests that there was some value in serving which mitigated time out of the civilian work force. This "time out" seems not to have been overcome by their Project 100,000 brothers.

It is also likely that there was less time for training and personalized attention during a period when there was the stress of war. The urgency of the Services' mission during this period may have resulted in an environment which was less conducive to success for low-aptitude individuals. Upon returning to civilian life after having been out of the mainstream for two-plus years, it is possible Project 100;000 participants had not gained the advantage that would allow them to compensate for time out of the work force.

Two other differences between the veteran samples were their average age at entry and the length of time they served. There were statistically significant differences between the two groups on both of these variables

(Table C-20) with the PK average age upon entering being one-and-one-half years older than the PIs, and their mean length of service being 8 months less. It is conceivable that because the PKs were slightly over 20 years of age upon entering service, being called to arms represented a greater disruption in their lives than was the case for the PIs who volunteered at a younger age when they were less likely to be engaged in the work force. It may also be the case that the longer time spent in service by the PIs afforded them a greater opportunity to capitalize on the experience than was true for the PKs. In both instances, the differences directly result from the fact that the draft was in place during Project 100,000, while PI entry into service was completely voluntary. Although these differences would not be thought to have a major impact, they may have contributed to the relatively poorer showing of the New Standards Men as compared to their civilian counterparts.

A final difference in the eras in which the two groups served concerns the aforementioned public attitudes toward the military which were prevalent at each time. During the Vietnam conflict the image of the military suffered a great deal. Consequently, being a veteran seemed to carry negative connotations, and the PKs were part of that perception. Following the war this perception changed gradually. Although the tarnish may not have been completely removed, once the United States ceased to be involved in Southeast Asia, much of the negativity associated with the military and military service began to abate. Although the PIs may not have reentered civilian life as heros, at least they did not bear the onus of being considered villains.

Another characteristic which differentiated the experiences of the New Standards Men and the Potentially Ineligibles is that the former came in under a special, publicized program aimed at enlisting low-aptitude individuals. In the case of the PIs, however, except for anecdotal evidence that the quality of the force was declining, no one knew they were there. It is true that an effort was made to not brand the Project 100,000 participants. But the mere fact that it was announced that entry standards were being lowered undoubtedly made everyone suspect which of their compatriots were members of "McNamara's Moron Corps"--the lasting epithet of the program. When criteria for entry are lowered, so too are the expectations of those responsible for training and leading those who may be under their command only because of decreased standards.

In summary, if those of low-aptitude are admitted to the military in times of war, the rationale should not be couched in terms of uplifting the disadvantaged. For, if anything, while military service may not be generally beneficial to marginal men, in terms of their post-service lives, service during wartime (at least as evidenced by the results for the Vietnam years) may actually be detrimental.

Musings and Implications

Despite plausible explanations for the differences in the post-service experiences of Project 100,000 and Potentially Ineligible men relative to their nonveteran controls, the question remains: Why did service not expand their opportunities? The Armed Forces have extensive training and employment capabilities. Together with its motivating and disciplinary tactics, the military is generally successful at turning raw recruits into efficient fighting forces. As a total institution, the military clothes, feeds, and houses its members. The institution also trains them toward a job which it provides. Even in the lowest skilled military job, the incumbent is a soldier. He dons the same uniform as his Service compatriots. One would certainly expect that the military's brand of socialization would inspire self-confidence and good work habits, and engender some degree of technical skills. And indeed it might, but these commodities may go unrecognized upon return to civilian life. Employers may forget or may even avoid hiring the "vet". Though negative images of the Vietnam era have subsided, misperceptions of the military and its personnel still abound (Eitelberg, 1988, 1989b). The military has become increasingly technologically sophisticated, and has America's best and brightest among its ranks, yet, many still assume that the military is operating without capable and qualified persons (Eitelberg, 1989a). Civilian employers may be somewhat biased against former veterans, ignoring or devaluing their military-acquired capabilities and attitudes. Or, even more subtly, the "implicit tax" theory might be correct in its assertion that time out from mainstream civilian activities and pursuits is damaging.

Another related hypothesis, more specific to low-aptitude youth, is that the discipline and highly structured environment found in the military may be necessary or responsible for their success. Perhaps rather than a bridge, there is a wall that divides the two sectors. Separation from service marks the end of a well-ordered routine and may even result in a decrease in status and satisfaction for the disadvantaged veteran. Actually, the low-aptitude soldier may be caught between the proverbial "rock and hard place." Civilian life following military service does not find the veteran in an advantageous position vis-a-vis his nonveteran peers. So, maybe he should have remained on board? This may not be an option, since low cognitive ability is associated with marginal job performance and difficulty in advancing up the career ladder, even in low-skill jobs. Furthermore, though forecasts of declining quantity and quality persist, the thawing of Cold War tensions counters the likelihood of increasing the military's reliance on lower aptitude youth. Force reductions and streamlining might very well reduce or hold steady their enlistment.

Regardless of speculations as to "why not," the military doesn't appear to be the panacea for struggling youth. Its effects do not seem to spill over into civilian life, at least for those with lesser abilities. Though the military might appear to be an attractive and efficient means to ameliorate the economic ills and skills decline rampant among the nation's youth, DoD does not appear able to turn disadvantage into advantage. It would appear that instead of looking in desperation toward the military for a "quick fix" to such problems, we ought to begin much earlier than someone's 18th or 20th birthday. And, it is important to remember that DoD is not HHS (the Department of Health and Human Services). To the extent that various "national service" proposals, have as one of their goals, remediation through military service, such hopes may be in vain.

Though the military does not have magical powers to end misfortunes, the plight of the underskilled should not be ignored. The erosion of cognitive abilities among this nation's youth is of great concern to the Military Services as well as the private and public sectors which depend upon human resources. And, though there are no latrines to be dug and few papers to be sorted in today's military, there remain some "less challenging" jobs to which lower-aptitude recruits could be assigned. Unfortunately, such positions may only temporarily forestall the effects of skill deficits and ultimately may lead to a dead end.

Project 100,000's social promises were not kept. Military training for marginal youth may be too little, too late. To compensate for the deficits which the underpriviledged bring with them would require more than a little extra training, and maybe even a complete restructuring of current pedagogical practices. Could the military undertake such an effort without sacrificing its mission? Or, could a non-defense institution patterned after the military be formed with remediation as its mission? And therefore, could low-aptitude youth realize peacetime benefits rather than just bear the burdens of serving in times of manpower crises? In the words of one of our VETLIFE respondents,"...that's a really hard question, I just don't know."

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APPENDIX A

Description of VETLIFE Study Variables

Description of VETLIFE Study Variables

The following variable definitions are organized, where possible, in the order as they are presented in the text. In most cases, the definitions are composed of two parts. First there is an overall definition. Second, if any differences occur between the samples, then they are explained. Assumptions that were made and data that were eliminated are noted below.

MILITARY STATUS

Military Status

Military status was defined, for the veteran groups at the time of the survey.

Separated were those not serving in active duty positions at the time of the survey. This included those serving in the Reserves or National Guard.

Active Duty were those serving in active duty positions at the time of the survey.

Project 100,000 (PK)

If the response to the current military status question was missing (n=2), then the respondent was considered separated.

EMPLOYMENT

Employment Status

Full-Time workers were those who worked 35 hours or more the week before the survey was given or those who usually worked 35 hours or more a week at their job or own business. For the veteran samples, those currently on active duty were considered full-time workers.

Part-Time workers were those who worked less than 35 hours the week before the survey was given and did not usually work 35 hours or more a week at their job.

Not working were those who did not work the week before the survey was given and did not have a job or own business.

Type of Establishment

Type of establishment was defined in terms of the respondent's current or most recent job using the following categories: 1) an employee of private company, business, or individual for wages, salary, or commission; 2) a government employee (federal, state, county, or local); 3) self employed in own business, professional practice, or farm; and 4) working without pay in a family business or farm. Self employed and working without pay were combined.

Civilian Occupations

Civilian occupations were defined in terms of the Census occupational coding scheme and classified into nine broad categories: 1) professional, technical, managerial; 2) sales; 3) clerical, administrative support; 4) service, private household; 5) service, except private household; 6) farmers and farm managers; 7) farm laborers and foremen; 8) laborers, except farm; and 9) craftsmen, operative, repair and precision production.

Work Tenure

Work tenure was defined for the Project 100,000 and NLS 1966 in 1981 samples only. Work tenure was defined in terms of the longest job held in the five years prior to the interview, i.e. the participants were asked when they started working and when they stopped working at the job they had held for the longest time since January 1981 for the PKs and November 1976 for the NLS66 (five years prior to the survey), excluding military service or Reserves or National Guard duty. It was possible that they had started working at the longest job prior to the five year period. If they were still working at the longest job, then the ending year was considered the year of the interview (since some veteran interviews were conducted in 1986 and some in 1987, this was set at 86.5). Work tenure was calculated by subtracting the beginning year from the ending year.

Project 100,000 (PK)

If the calculated time in longest job was greater than 28 years, then the individual was considered an outlier and excluded from the analyses.

NLS 1966 in 1981

If the calculated time in longest job was greater than 21 years, then the individual was considered an outlier and excluded from the analyses.

Job Satisfaction

Job satisfaction was defined for the Potentially Ineligibles and NLS 1979 in 1985 samples only. Job satisfaction was defined in terms of how the respondent felt about his job at the time of the survey or their most recent job -- Like it very much, like it fairly well, dislike it somewhat, dislike it very much.

Job Related Benefits

Benefits were defined as the types of benefits that full-time civilian workers were offered in their current or most recent jobs.

Project 100,000 (PK) & NLS 1966 in 1981

Benefits were defined as the following: medical, surgical or hospital insurance; life insurance; retirement program; training or educational opportunities; profit sharing; stock options; paid sick leave; paid vacation; and flexible work hours.

Potentially Ineligibles (PI) & NLS 1979 in 1985

Benefits were defined as the following: medical, surgical, or hospital insurance; life insurance; paid sick leave; dental benefits; and paid vacation.

INCOME

Hourly Income

Hourly income was defined for the Project 100,000 and NLS 1966 in 1981 samples only. Hourly income was defined as the amount of pay per hour before deductions. Participants were asked how much they earned in their job before deductions and then whether the amount was per hour, day, week, every two weeks, month, year, or other. Pay was converted to hourly pay. If the respondent reported income per day, then the amount was divided by 8 or if an annual income was given, then the income was divided by 1920, and so forth. If the time unit of rate of pay was other, didn't work for pay, refusal, don't know, or missing the hourly income was considered missing.

Project 100,000 (PK)

In five cases the hourly income computation resulted in skewed amounts. These cases were investigated and it appeared that the time unit of rate of pay had been miscoded. Of the five discrepant cases, four were recoded and one was deleted. Also, any cases with hourly income greater than or equal to $300 were eliminated.

NLS 1966 in 1981

Any cases with hourly income greater than or equal to $300 were eliminated.

Total Income

Total income was generally defined as total household income. It was defined differently for the PK/NLS66 and the PI/NLS79 samples due to differences in the NLS surveys.

Project 100,000 (PK) & NLS 1966 in 1981

Total income was defined as the total income of all family members in the respondents household in the year prior to the survey. The responses were categorical rather than continuous, and were dichotomized into less than $20,000 and greater than or equal to $20,000.

Potentially Ineligibles (PI) & NLS 1979 in 1985

Total income was defined as income from wages and farm or business income for the respondent plus any other income that the respondent or his wife received from any of the following sources: interest on savings or bonds, dividends, Social Security, Workers Compensation, Veterans benefits excluding educational benefits, pensions or annuities, net rental income, royalties, estates or trusts, and any other regular or periodic source of income.

Income

Income was defined as:

Income from wages -- amount of money earned from wages, salaries, commissions, and tips before deductions in the year prior to the survey. For the veteran samples, those interviewed in 1986 were asked for 1985 income and those interviewed in 1987 were asked for 1986 income. The nonveteran samples were asked for their income during the 12 months prior to the survey.

Income from farm or business (FBI) -- amount of money earned from working on their own or in their own business or farm in the year prior to the survey.

In calculating income, if an individual refused to answer the income question(s) or didn't know the amount of income, then the income value was considered a missing value. If an individual indicated that he was employed but did not report any income, then he was also considered missing.

Project 100,000 (PK) & Potentially Ineligibles (PI)

For the veteran samples, income from wages included any money they received from active duty service in the military in the year prior to the survey, even if they were separated at the time of the survey.

Potentially Ineligibles (PI)

An outlier who reported an income of $200,000 was excluded from the analyses.

NLS 1966 in 1981 & NLS 1979 in 1985

For the nonveteran samples, the FBI question included money received from a partnership or professional practice.

NLS 1966 in 1981

Farm or business income included any money the respondent or their wife/partner received from operating a farm in the past 12 months.

OTHER ECONOMIC INDICATORS

Unemployment Benefits

Unemployment benefits were defined in terms of whether the respondent received unemployment benefits in the year prior to the survey.

Project 100,000 (PK)

Unemployment benefits were defined as benefits received by the respondent or his wife in the year prior to the survey.

Welfare Benefits

Welfare benefits were defined in terms of whether the respondent received welfare benefits in the year prior to the survey.

Project 100,000 (PK)

Welfare benefits were defined as welfare benefits or public assistance received by the respondent or anyone living with the respondent in the year prior to the survey.

Potentially Ineligibles (PI), NLS 1966 in 1981 & NLS 1979 in 1985

Welfare benefits were defined as Aid to Families with Dependent Children (AFDC), food stamps, and Supplemental Security Income (SSI), or any public assistance or welfare payments from the local, state, or federal government received by the respondent or his wife in the year prior to the survey.

Veterans Benefits/Workers Compensation/Disability (VBWCD)

VBWCD were defined for the Potentially Ineligible and NLS 1979 in 1985 samples only. VBWCD were defined as any veterans benefits (excluding educational benefits), workers compensation or disability payments received by the respondent or his wife in the year prior to the survey.

Assistance from Relatives

Assistance from relatives was defined for the Project 100,000 and NLS 1966 in 1981 samples only. Assistance from relatives was defined in terms of whether the respondent or his wife received any financial assistance from any relatives in the 12 months prior to the survey.

EDUCATION AND TRAINING

Educational Status

Educational status was defined as the highest grade completed at the time of the survey. Educational status was analyzed as a continuous variable and as categorical data -- highest grade completed was 1) less than high school, 2) high school, 3) some college, or 4) four years of college or more (college +).

College Degree

College degree was defined by the highest or most recent degree that the respondent received. The coding scheme for the PKs was equated to the NLS66 coding scheme defined below.

Project 100,000 (PK)

College degree was defined as: associate degree, bachelor's degree, master's degree, specialist or 6-year certificate, advanced graduate degree, and doctorate.

NLS 1966 in 1981

College degree was defined as: associate, bachelor's, master's, and doctorate.

Field of Degree

Field of degree was defined as the field of study or major in which the respondent received his highest or most recent degree.

Educational Benefits (VEAP/GI Bill & Other)

Educational benefits were defined for the Potentially Ineligible and NLS 1979 in 1985 samples only. Educational benefits were defined as any educational benefits for veterans under the GI Bill or Veterans Education Assistance Program (VEAP) received by the respondent or his wife in the year prior to the survey.

Participation in Training

Participation in training was defined as ever enrolling in any training program aside from regular school and military training. If the respondent had completed or was still enrolled in a training program, then they had participated in training.

Project 100,000 (PK)

Training was defined as any training the respondent received in a business college, vocational or technical institute or school, apprenticeship training, or any full-time course lasting six weeks or more at a business or company training school, or any additional general courses in a regular school such as English, math or science courses.

NLS 1966 in 1981

Training was defined as any training courses or education programs of any kind, either on the job or elsewhere, that the respondent received.

Potentially Ineligibles (PI)

Training was defined as any training programs participated in since January 1981.

NLS 1979 in 1985

Training was defined as government sponsored training programs such as CETA, JTPA, or TAA programs and the Job Corps, and any other training such as in a business college, nurse's program, or vocational or technical institute. Participation was defined as any of the above types of training received since January 1981.

Completion of Training

Completion of training was defined, for the Project 100,000 and NLS 1966 in 1981 samples only, in terms of whether the respondent had completed the training he had enrolled in. Those still enrolled were not counted as completing the course at the time of the survey.

Kind of Training

Kind of training was defined in terms of the most recent training. Kind of training was defined as: professional/technical; managerial; clerical; and skilled manual, including apprenticeship, sales, service, and other. Skilled manual, sales, service, and other were combined as other. The codes for some of the NLS66 surveys prior to the latest survey of 1981 included variations of the coding scheme described above, however the only variations involved the other category. Thus, the four kinds of training used in these analyses are consistent.

Government Sponsored Training

Government sponsored training was only defined for the Potentially Ineligibles and the NLS 1979 in 1985. Government sponsored training was defined as the most recent training that the respondent received since January 1981. This excluded any military training programs.

MARITAL AND FAMILY STATUS

Current Marital Status

Current marital status was defined as the respondent's marital status at the time of the survey in terms of the following categories: married, widowed, divorced/separated, or never married.

Number of Times Married

Number of times married was defined for the Project 100,000 and NLS 1966 in 1981 samples only. Number of times married was defined as the total number of times that the respondent had been married.

Number of Children Fathered

Number of children fathered was defined as the total number of children that the respondent had fathered, not counting babies who were miscarried, stillborn, or aborted.

VETERANS' SUBJECTIVE OPINIONS

The Effect of Military Service on Veterans' Careers

Veterans' (separated from active duty at the time of the survey) subjective opinions on the effect of military service on their careers was assessed with the following question, **"All things considered, do you think that your entire period of military service, including Reserve or Guard Duty, has helped, hurt, or had no effect on your career?"** Responses were defined as helped, hurt, or no effect. If they said that it helped their career, they were asked **"Why do you think it has helped?"** Conversely, if they said that it hurt their career, they were asked **"Why do you think it has hurt?"** The helped and hurt responses were open-ended questions coded into the following categories:

Why do you think it has helped?	Why do you think it has hurt?
Don't Know	Don't Know
Leadership	Harder to Find Job
Maturity	Physical Problems
Discipline	Emotional Problems
Education Assistance	Caused Family Problems
Training	Other
Motivation	
Other	

The Effect of Military Service on Veterans' Lives

Veterans' (separated from active duty at the time of the survey) subjective opinions on the effect of military service on their lives was assessed with the following question, **"In general, what effect would you say military** service has had on your life (so far/since leaving the military/since you were discharged from active duty)?" This was an open-ended question coded into the following categories (up to three responses were coded):

Don't Know
Leadership
Maturity
Discipline
Education Assistance
Training
Maturity
Money
Harder to Find Job
Family/Physical Problem
None
Other

APPENDIX B

Project 100,000 Veterans Supporting Tables

Table B-1

Military Occupational Specialty and Branch of Service Between 1966 and 1970 for Project 100,000 Sample Separated From Service at Time of Survey

Military Occupational Specialty	Service									
	Army		Navy		Air Force		Marine Corps		Total	
	N	%	N	%	N	%	N	%	N	%
Combat Arms	16	8.3	3	9.7	2	6.9	7	15.6	28	9.4
Technical Skills	40	20.7	5	16.1	2	6.9	2	4.4	49	16.4
Other	49	25.4	6	19.4	10	34.5	5	11.1	70	23.5
Don't Know/Missing	88	45.6	17	54.8	15	51.7	31	68.9	151	50.7
Total	193	100	31	100	29	100	45	100	298	100

X^2 (df=9) = 19.0** (4 of 16 cells < 5)

** = $p < .05$

Table B-2

Employment Status for Project 100,000 Personnel Who Served 18+ Months and NLS 1966 Sample

Sample	Employment Status						Total	
	Full-Time		Part-Time		Not Working			
	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran								
PK Separated[b] Who Served 18 Months or More	217	86.2	6	2.4	29	11.4	251	100
Nonveteran								
NLS 1966 in 1981	177	90.8	2	0.9	16	8.4	195	100

Chi-Square Statistics

	Effective Sample		
	Full-Time	Part-Time	Not Working
PK Separated	114	3	15
NLS 1966 in 1981	130	1	12

PK Separated vs. NLS	
Working vs. Not Working	0.7[ns]
Full-Time vs. Part-Time and Not Working	1.4[ns]

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Separated includes those serving in the reserves.

Note: Full-time vs. part-time vs. not working and full-time vs. part-time comparisons could not be interpreted due to small cell sizes for part-time workers.

ns = Not Significant.

Table B-3

Civilian Occupational Categories for Project 100,000 and NLS 1966 Samples

Civilian Occupational Categories[a]	Sample			
	PK Separated[b]		NLS 66 in 81	
	N[c]	%	N[c]	%
Professional, Technical, & Managerial	42	16.3	39	20.7
Sales	11	4.1	9	4.9
Clerical & Administrative Support	23	9.0	12	6.5
Service, Private Household	0*	0.1	--	--
Service, Except Private Household	21	8.0	8	4.3
Farmers & Farm Managers	3	1.3	10	5.0
Farm Laborers & Foremen	2	0.7	2	0.9
Laborers, Except Farm	19	7.2	11	6.0
Craftsmen, Operatives, Repair & Precision Production	138	53.3	98	51.7
Total	260	100	189	100

[a] Occupational codes for the PK and NLS were taken from the 1980 and 1960 versions of the Census 3-digit Occupational Classification System, respectively. The two versions were equated and this produced the nine categories listed in this table.

[b] Separated includes those serving in the reserves.

[c] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

Note: 0* indicates N < .50 which is possible because of weighted data.
-- indicates no reported cases

Table B-4

Civilian Occupational Categories for Project 100,000 and NLS 1966 Samples Controlling for Age

	Sample			
Civilian Occupational Categories[a]	PK Separated[b]		NLS 66 in 81	
	N[c]	%	N[c]	%
Professional, Technical, & Managerial	33	15.9	29	30.0
Sales	9	4.4	4	3.9
Clerical & Administrative Support	20	9.6	5	5.1
Service, Private Household	0^*	0.2	--	--
Service, Except Private Household	18	8.6	5	5.4
Farmers & Farm Managers	2	1.0	6	6.2
Farm Laborers & Foremen	0	0.3	1	1.5
Laborers, Except Farm	17	8.3	5	5.5
Craftsmen, Operatives, Repair & Precision Production	108	51.7	41	42.4
Total	**209**	**100**	**97**	**100**

[a] Occupational codes for the PK and NLS were taken from the 1980 and 1960 versions of the Census 3-digit Occupational Classification System, respectively. The two versions were equated and this produced the nine categories listed in this table.

[b] Separated includes those serving in the reserves.

[c] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

Note: 0^* indicates N < .50 which is possible because of weighted data.
-- indicates no reported cases.

Table B-5

Unadjusted Hourly Pay for Project 100,000 and NLS 1966 Samples

		Unadjusted Hourly Pay[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c]	Full-Time[d]	232	10.5	10.0	5.0
	All Workers[e]	245	10.3	9.5	5.0
Nonveteran					
NLS 1966 in 1981	Full-Time	111	10.9	10.0	5.1
	All Workers	119	10.8	10.0	5.0

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	122	4.9	202	- 0.6[ns]
NLS 1966 in 1981	82	5.3		
All Workers				
PK Separated	129	4.8	215	- 0.8[ns]
NLS 1966 in 1981	88	5.2		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time and part-time workers who reported income.

ns = Not Significant.

Table B-6

Unadjusted Hourly Pay for Project 100,000 and NLS 1966 Samples Controlling for Age

		Unadjusted Hourly Pay[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c]	Full-Time[d]	186	10.4	9.8	4.7
	All Workers[e]	199	10.2	9.4	4.7
Nonveteran					
NLS 1966 in 1981	Full-Time	63	12.1	10.7	5.7
	All Workers	63	12.1	10.6	5.7

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	98	4.8	143	- 1.9*
NLS 1966 in 1981	47	5.4		
All Workers				
PK Separated	105	4.7	150	- 2.2**
NLS 1966 in 1981	47	5.4		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time and part-time workers who reported income.

* = $p < .10$
** = $p < .05$

Table B-7

Adjusted Annual Income From Wages for Project 100,000 Personnel Who Served 24+ Months and NLS 1966 Sample

		Adjusted Annual Income From Wages[a]			
Sample	**Employment Status**	**N[b]**	**Mean**	**Median**	**Standard Deviation**
Veteran					
PK Separated[c]	Full-Time[d]	131	20,174	19,360	8,450
	All[e]	150	18,558	17,000	9,198
Nonveteran					
NLS 1966 in 1981	Full-Time	146	25,153	22,499	12,121
	All	168	23,634	20,912	13,059

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	69	8,065	175.13	-3.2***
NLS 1966 in 1981	108	12,377		
All				
PK Separated	79	8,969	200.41	-3.3***
NLS 1966 in 1981	124	13,227		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time and part-time workers who reported income.

*** = $p < .01$

Table B-8

Adjusted Annual Income From Wages and Farm or Business (FBI) for Project 100,000 Personnel Who Served 24+ Months and NLS 1966 Sample

		Adjusted Annual Income From Wages & FBI[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PK Separated[c]	Full-Time[d]	135	20,464	19,360	10,440
	All[e]	154	18,879	17,149	10,757
Nonveteran					
NLS 1966 in 1981	Full-Time	161	27,569	23,620	16,052
	All	183	25,921	21,488	16,537

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PK Separated	71	9,999	188.09	-3.7**
NLS 1966 in 1981	119	16,298		
All				
PK Separated	81	10,515	213.66	-3.8**
NLS 1966 in 1981	135	16,676		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time and part-time workers who reported income.

*** = $p < .01$

Table B-9

Number of Benefits Offered by Employer for Project 100,000 Participants and NLS 1966 Samples Employed Full-Time, Entire Sample and Restricted Ages

Sample	Number of Benefits			
	N[a]	Mean	Standard Deviation	t Value
PK Separated	133	5.12	2.54	-2.1**
NLS 1966 in 1981	108	5.78	2.21	
PK Separated 35-40 year olds	105	5.35	2.5	-2.6**
NLS 1966 in 1981 35-40 year olds	54	6.37	2.0	

[a] Weighted frequency produced by demographically equating the military and civilian samples.

** = $p < .05$
*** = $p < .01$

Table B-10

Assistance From Relatives for Project 100,000 and NLS 1966 Samples Controlling for Age

Sample	Assistance From Relatives				Total	
	Assistance		No Assistance			
	N[a]	%	N[a]	%	N[a]	%
Veteran						
PK Separated and Active Duty	11	4.5	236	95.5	247	100
Nonveteran						
NLS 1966 in 1981	4	4.3	96	95.7	100	100

Chi-Square Statistics

	Effective Sample	
	Assistance	No Assistance
PK Separated and Active Duty	6	124
NLS 1966 in 1981	3	71
PK Separated and Active Duty vs. NLS Receive Assistance vs. Don't Receive Assistance		0.0^{ns}

[a] Weighted frequency produced by demographically equating the military and civilian samples.

ns = Not Significant

Table B-11

Highest Level of Education Completed for Project 100,000 and NLS 1966 Samples Controlling for Age

Sample	Highest Level of Education Completed									
	Less Than High School		High School		Some College		College+		Total	
	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran										
PK Separated[b]	62	26.1	128	53.8	39	16.3	9	3.8	238	100
PK Separated and Active Duty	64	25.7	132	53.6	40	16.3	11	4.3	247	100
Nonveteran										
NLS 1966 in 1981	22	22.6	46	48.2	16	16.9	12	12.2	96	100

Chi-Square Statistics

	Effective Sample			
	Less Than HS	High School	Some College	College+
PK Separated	33	67	20	5
PK Separated and Active Duty	34	70	21	6
NLS 1966 in 1981	16	34	12	9

PK Separated vs. NLS	
Less Than HS vs. HS vs. Some College vs. College+	5.2[ns]
Less Than HS vs. HS & Some College & College+	0.3[ns]
Less Than HS & HS vs. Some College & College+	2.1[ns]
PK Separated and Active Duty vs. NLS	
Less Than HS vs. HS vs. Some College vs. College+	4.5[ns]
Less Than HS vs. HS & Some College & College+	0.2[ns]
Less Than HS & HS vs. Some College & College+	1.8[ns]

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Includes those serving in the reserves.

ns = Not Significant.

Table B-12

College Degrees for Project 100,000 and NLS 1966 Samples Ever Attending College

College Degree	PK Separated[a]		PK Separated & Active Duty		NLS 66 in 81	
	N[b]	%	N[b]	%	N[b]	%
No Degree	34	66.3	38	68.3	--	--
Associate's Degree	11	21.4	11	20.0	8	31.4
Bachelor's Degree	2	3.2	2	3.0	9	37.1
Master's Degree	5	9.1	5	8.6	1	5.5
Doctorate Degree	--	--	--	--	0*	1.8
Total	52	100	55	100	25	100

[a] Includes those serving in the reserves.

[b] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

Note: 0* indicates N < .50 which is possible because of weighted data.
-- indicates no reported cases.

Table B-13

Major Field of College Study for Project 100,000 and NLS 1966 Samples Who Obtained a College Degree

Field of Study	PK Separated[a]		NLS 66 in 81	
	N[b]	%	N[b]	%
No Major Field	1	7.2	--	--
Architecture	0*	1.4	--	--
Area Studies	--	--	0*	1.4
Business	3	14.1	5	21.2
Communications	--	--	0*	1.8
Education	4	21.6	7	28.1
Engineering	--	--	2	7.1
Fine & Applied Arts	--	--	1	2.8
General Studies	--	--	3	12.6
Interdisciplinary Studies	1	3.2	--	--
Law	2	9.5	--	--
Library Science	--	--	1	3.1
Physical Sciences	--	--	1	5.5
Psychology	--	1.4	--	--
Social Sciences	1	3.0	4	16.4
Other	7	38.8	--	--
Total	19	100	25	100

[a] Includes those serving in the reserves.

[b] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

Note: 0* indicates N < .50 which is possible because of weighted data.
-- indicates no reported cases.

Table B-14

Number of Times Married for Project 100,000 and NLS 1966 Samples Controlling for Age

	Number of Times Married			
Sample	**N[a]**	**Mean**	**Median**	**Standard Deviation**
Veteran				
PK Separated and Active Duty	230	1.3	1.0	0.6
Nonveteran				
NLS 1966 in 1981	100	1.2	1.0	0.4

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated & Active	121	0.6	192.32	2.3**
NLS 1966 in 1981	74	0.4		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

** = $p < .05$

Table B-15

Number of Children Fathered by Project 100,000 and NLS 1966 Samples

Sample	Number of Children Fathered			
	N[a]	Mean	Median	Standard Deviation
Veteran				
PK Separated and Active Duty	311	1.9	2.0	1.4
Nonveteran				
NLS 1966 in 1981	146	2.4	2.0	1.1

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated & Active	164	1.4	260.51	- 3.3***
NLS 1966 in 1981	108	1.1		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

*** = $p < .01$

Table B-16

Number of Children Fathered by Project 100,000 and NLS 1966 Samples Controlling for Age

	Number of Children Fathered			
Sample	N[a]	Mean	Median	Standard Deviation
Veteran				
PK Separated and Active Duty	248	1.8	2.0	1.4
Nonveteran				
NLS 1966 in 1981	95	2.6	2.0	1.3

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PK Separated & Active	131	1.4	199	- 3.6***
NLS 1966 in 1981	70	1.2		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

*** = p < .01

Table B-17

Binomial Test for Significance of Effect of Military on Career for Project 100,000 Sample Separated From Service at Time of Survey

Binomial Comparison	Test Proportion	Observed Proportion	2-tailed Probability
Helped vs. Hurt/No Effect	.500	.498	1.00^{ns}
Helped vs. Hurt	.500	.786	.00***
Helped vs. No Effect	.500	.577	$.02^{ns}$
Hurt vs. No Effect	.500	.270	.00***
Hurt vs. Helped/No Effect	.500	.136	.00***

Chi-Square Test for Significance of Effect of Military on Career for Project 100,000 Sample Separated From Service at Time of Survey

Category	Cases Observed	Expected	Residual
Helped Career	147	98.33	48.67
Hurt Career	40	98.33	-58.33
No Effect	108	98.33	9.67

Chi-Square	Degrees of Freedom	Significance
59.6	2	.00***

** p < .05
*** p < .01
ns = Not Significant.

APPENDIX C

ASVAB Misnorming Veterans Supporting Tables

Table C-1

Unadjusted Annual Income of Potentially Ineligible Sample Separated From Service at Time of Survey, by Length of Service

	Unadjusted Annual Income From Wages Only[a]				
Length of Service	N[a]	Mean	Median	Standard Deviation	F Value
1-23 months	80	12,932	12,000	9,408	
24-35 months	30	9,807	8,170	8,777	1.6[ns]
36-48 months	113	13,710	12,000	9,470	
49-96 months	31	14,243	13,000	7,620	

	Unadjusted Annual Income From Wages and FBI[b]				
Length of Service	N[a]	Mean	Median	Standard Deviation	F Value
1-23 months	80	13,610	12,500	10,342	
24-35 months	30	10,340	8,170	9,526	1.2[ns]
36-48 months	113	14,259	12,000	11,027	
49-96 months	31	14,248	13,000	7,621	

[a] In dollars.

[b] Farm or business income (FBI).

ns = Not Significant.

Table C-2

Employment Status for Potentially Ineligible Personnel Who Served 36+ Months and NLS 1979 Sample

Sample	Employment Status						Total	
	Full-Time		Part-Time		Not Working			
	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Veteran								
PI Separated[b] Who Served 36 Months or More	113	74.6	16	10.6	22	14.8	152	100
Nonveteran								
NLS 1979 in 1985	670	77.2	45	5.2	153	17.6	868	100

Chi-Square Statistics

	Effective Sample		
	Full-Time	Part-Time	Not Working
PI Separated	86	12	17
NLS 1979 in 1985	495	34	113
PI Separated vs. NLS			
Working vs. Not Working			0.6^{ns}
Full-Time vs. Part-Time vs. Not Working			5.2^{*}
Full-Time vs. Part-Time			4.5^{**}
Full-Time vs. Part-Time & Not Working			0.3^{ns}

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Separated includes those serving in the reserves.

** = $p < .05$
* = $p < .10$
ns = Not Significant.

Table C-3

Civilian Occupational Categories for All Workers in Potentially Ineligible and NLS 1979 Samples

Civilian Occupational Categories[b]	All Workers[a]			
	PI Separated[c]		NLS 79 in 85	
	N[d]	%	N[d]	%
Professional, Technical, & Managerial	25	10.8	61	8.6
Sales	13	5.7	16	2.3
Clerical & Administrative Support	14	6.2	64	8.9
Service, Private Household	--	--	--	--
Service, Except Private Household	33	14.5	97	13.6
Farmers & Farm Managers	1	0.5	--	--
Farm Laborers & Foremen	1	0.6	9	1.3
Laborers, Except Farm	24	10.4	114	15.9
Craftsmen, Operatives, Repair & Precision Production	117	51.2	354	49.5
Total	**229**	**100**	**716**	**100**

[a] All workers includes full-time and part-time workers.

[b] Occupational codes for the PI and NLS were taken from the 1970 and 1980 versions of the Census 3-digit Occupational Classification System, respectively. The two versions were equated and this produced the nine categories listed in this table.

[c] Separated includes those serving in the reserves.

[d] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

Note: -- indicates no reported cases.

Table C-4

Civilian Occupational Categories for Full-Time Workers in Potentially Ineligible and NLS 1979 Samples

	Full-Time Workers			
Civilian Occupational Categories[a]	PI Separated[b]		NLS 79 in 85	
	N[c]	%	N[c]	%
Professional, Technical, & Managerial	22	10.8	60	8.9
Sales	13	6.4	16	2.4
Clerical & Administrative Support	12	5.9	56	8.3
Service, Private Household	--	--	--	--
Service, Except Private Household	28	13.7	83	12.4
Farmers & Farm Managers	--	--	--	--
Farm Laborers & Foremen	1	0.7	9	1.3
Laborers, Except Farm	21	10.2	101	15.0
Craftsmen, Operatives, Repair & Precision Production	117	52.3	346	51.6
Total	206	100	670	100

[a] Occupational codes for the PI and NLS were taken from the 1970 and 1980 versions of the Census 3-digit Occupational Classification System, respectively. The two versions were equated and this produced the nine categories listed in this table.

[b] Separated includes those serving in the reserves.

[c] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to effects of weighting and rounding.

Note: -- indicates no reported cases.

Table C-5

Job Satisfaction of Potentially Ineligible and NLS 1979 Samples

Sample	Job Satisfaction								Total	
	Like it very much		Like it fairly well		Dislike it somewhat		Dislike it very much			
	N[a]	%	N[a]	%	N[a]	%	N[a]	%	N[a]	%
Full-Time Workers										
PI Separated[b]	85	39.2	88	40.8	34	15.9	9	4.1	216	100
NLS 1979 in 1985	268	40.0	330	49.3	52	7.8	20	3.0	670	100
All Workers[c]										
PI Separated	104	37.3	117	41.9	41	14.8	17	5.9	280	100
NLS 1979 in 1985	323	38.7	413	49.4	72	8.6	27	3.2	835	100

Chi-Square Statistics

	Effective Sample			
	Like much	Like	Dislike	Dislike much
Full-Time Workers				
PI Separated	64	67	26	7
NLS 1979 in 1985	198	244	38	15
All Workers				
PI Separated	79	89	31	13
NLS 1979 in 1985	239	305	53	20

PI Separated vs. NLS	
Full-Time Workers: Like very much vs. Like fairly well vs. Dislike somewhat vs. Dislike very much	10.7**
All Workers: Like very much vs. Like fairly well vs. Dislike somewhat vs. Dislike very much	10.8**

---

[a] Weighted frequency produced by demographically equating the military and civilian samples. The percentages may not sum to 100 due to the effects of weighting and rounding.

[b] Separated includes those serving in the reserves.

[c] All workers includes full-time and part-time workers.

** = $p < .05$.

Table C-6

Unadjusted Annual Income From Wages and Farm or Business (FBI) for Potentially Ineligible and NLS 1979 Samples

Sample	Employment Status	Unadjusted Annual Income From Wages and FBI[a]			
		N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	202	15,649	14,000	11,055
	All[e]	277	13,671	12,000	10,714
PI Separated and Active Duty	Full-Time	227	15,462	14,000	10,419
	All	301	13,691	12,000	10,242
Nonveteran					
NLS 1979 in 1985	Full-Time	652	15,171	12,000	10,973
	All	848	12,967	10,000	10,757

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	153	11,001	632	0.5[ns]
NLS 1979 in 1985	481	10,609		
PI Separated & Active	171	10,504	650	0.3[ns]
NLS 1979 in 1985	481	10,609		
All				
PI Separated	209	10,604	833	0.8[ns]
NLS 1979 in 1985	625	10,724		
PI Separated & Active	228	10,242	851	0.9[ns]
NLS 1979 in 1985	625	10,724		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-7

Adjusted Annual Income From Wages and Farm or Business (FBI) for Potentially Ineligible Personnel Who Served 36+ Months and NLS 1979 Sample

		Adjusted Annual Income From Wages and FBI[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	103	16,176	14,000	10,657
	All[e]	151	14,122	12,000	10,308
Nonveteran					
NLS 1979 in 1985	Full-Time	652	15,582	12,252	11,324
	All	848	13,314	10,156	11,088

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	78	10,958	557	0.4[ns]
NLS 1979 in 1985	481	10,948		
All				
PI Separated	114	10,389	737	0.7[ns]
NLS 1979 in 1985	625	11,054		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-8

Unadjusted Annual Income From Wages for Potentially Ineligible Personnel Who Served 24+ Months and NLS 1979 Sample

Sample	Employment Status	Unadjusted Annual Income From Wages[a]			
		N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	128	15,050	13,500	8,961
	All[e]	185	13,272	12,000	8,893
Nonveteran					
NLS 1979 in 1985	Full-Time	638	14,782	12,000	9,578
	All	833	12,527	9,787	9,626

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	96	9,061	565	0.3[ns]
NLS 1979 in 1985	470	9,334		
All				
PI Separated	140	8,867	753	0.8[ns]
NLS 1979 in 1985	615	9,656		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-9

Adjusted Annual Income From Wages for Potentially Ineligible Personnel Who Served 24+ Months and NLS 1979 Sample

		Adjusted Annual Income From Wages[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran PI Separated[c]	Full-Time[d]	128	14,841	13,360	8,866
	All[e]	185	13,103	11,659	8,795
Nonveteran NLS 1979 in 1985	Full-Time	637	15,181	12,252	9,881
	All	833	12,862	10,124	9,920

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	96	8,965	565	0.3[ns]
NLS 1979 in 1985	470	9,629		
All				
PI Separated	140	8,769	753	0.3[ns]
NLS 1979 in 1985	615	9,952		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-10

Unadjusted Annual Income From Wages and Farm or Business (FBI) for Potentially Ineligible Personnel Who Served 24+ Months and NLS 1979 Sample

Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
		Unadjusted Annual Income From Wages and FBI[a]			
Veteran					
PI Separated[c]	Full-Time[d]	128	15,868	13,500	10,940
	All[e]	185	13,834	12,000	10,441
Nonveteran					
NLS 1979 in 1985	Full-Time	652	15,171	12,000	10,973
	All	848	12,967	10,000	10,757

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	96	11,062	575	0.6ns
NLS 1979 in 1985	481	10,609		
All				
PI Separated	140	10,409	764	0.9ns
NLS 1979 in 1985	625	10,724		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-11

Unadjusted Annual Income From Wages for Potentially Ineligible Personnel Who Served 36+ Months and NLS 1979 Sample

		Unadjusted Annual Income From Wages[a]			
Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	103	15,657	14,000	8,514
	All[e]	151	13,793	12,000	8,701
Nonveteran					
NLS 1979 in 1985	Full-Time	637	14,782	12,000	9,578
	All	833	12,527	9,787	9,626

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	78	8,754	547	0.8[ns]
NLS 1979 in 1985	470	9,334		
All				
PI Separated	114	8,769	727	1.3[ns]
NLS 1979 in 1985	615	9,656		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-12

Adjusted Annual Income From Wages for Potentially Ineligible Personnel Who Served 36+ Months and NLS 1979 Sample

Sample	Employment Status	N[b]	Mean	Median	Standard Deviation
		Adjusted Annual Income From Wages[a]			
Veteran					
PI Separated[c]	Full-Time[d]	103	15,434	14,000	8,431
	All[e]	151	13,612	12,000	8,610
Nonveteran					
NLS 1979 in 1985	Full-Time	637	15,181	12,252	9,881
	All	833	12,862	10,124	9,920

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	78	8,668	547	0.2[ns]
NLS 1979 in 1985	470	9,629		
All				
PI Separated	114	8,677	727	0.8[ns]
NLS 1979 in 1985	615	9,952		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-13

Unadjusted Annual Income From Wages and Farm or Business (FBI) for Potentially Ineligible Personnel Who Served 36+ Months and NLS 1979 Sample

Sample	Employment Status	Unadjusted Annual Income From Wages and FBI[a]			
		N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c]	Full-Time[d]	103	16,400	14,000	10,714
	All[e]	151	14,304	12,000	10,380
Nonveteran					
NLS 1979 in 1985	Full-Time	652	15,171	12,000	10,973
	All	848	12,967	10,000	10,757

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Full-Time Workers				
PI Separated	78	11,017	557	0.9[ns]
NLS 1979 in 1985	481	10,609		
All				
PI Separated	114	10,462	737	1.2[ns]
NLS 1979 in 1985	625	10,724		

[a] In dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Includes those serving in the reserves.

[d] Includes only full-time workers who reported income.

[e] Includes full-time, part-time, and not working, excluding full-time and part-time workers who did not report income.

ns = Not Significant.

Table C-14

Unadjusted Total Annual Income for All Workers of the Potentially Ineligible and NLS 1979 Samples

		Total Income[a]			
Sample	Marital Status	N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c] and Active Duty	Married & Div/Sep[d]	151	16,141	15,000	12,485
	All	278	14,205	12,000	12,191
Nonveteran					
NLS 1979 in 1985	Married & Div/Sep[d]	165	16,284	13,238	10,628
	All	832	13,084	10,000	10,733

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Married & Div/Sep				
PI Separated & Active	114	12,075	206.5	- 0.1[ns]
NLS 1979 in 1985	196	10,237		
All				
PI Separated & Active	210	12,056	330.6	1.2[ns]
NLS 1979 in 1985	614	10,755		

[a] Total income = respondent's wages and farm or business income plus respondent's or wife's money from interest on savings, dividends, social security, workers compensation, VA benefits, pension annuities, rental income, royalties, and other sources in dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Separated includes those serving in the reserves.

[d] Div/Sep = Divorced or Separated.

ns = Not Significant.

Table C-15

Unadjusted Total Annual Income for Full-Time Workers of the Potentially Ineligible and NLS 1979 Samples

		Total Income[a]			
Sample	**Marital Status**	**N[b]**	**Mean**	**Median**	**Standard Deviation**
Veteran					
PI Separated[c] and Active Duty	Married & Div/Sep[d]	125	17,612	16,325	12,873
	All	204	16,266	14,000	12,835
Nonveteran					
NLS 1979 in 1985	Married & Div/Sep[d]	233	17,486	14,413	10,631
	All	636	15,336	12,000	10,925

t-Test Statistics				
	Effective Sample	**Standard Deviation**	**Degrees of Freedom**	**t Value**
Married & Div/Sep				
PI Separated & Active	94	12,322	160.7	0.1[ns]
NLS 1979 in 1985	172	9,961		
All				
PI Separated & Active	154	12,758	226.6	0.8[ns]
NLS 1979 in 1985	470	10,629		

[a] Total income = respondent's wages and farm or business income plus respondent's or wife's money from interest on savings, dividends, social security, workers compensation, VA benefits, pension annuities, rental income, royalties, and other sources in dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Separated includes those serving in the reserves.

[d] Div/Sep = Divorced or Separated.

ns = Not Significant.

Table C-16

Adjusted Total Annual Income for Full-Time Workers of the Potentially Ineligible and NLS 1979 Samples

Sample	Marital Status	Total Income[a] N[b]	Mean	Median	Standard Deviation
Veteran					
PI Separated[c] and Active Duty	Married & Div/Sep[d]	125	17,420	15,915	12,830
	All	204	16,094	14,000	12,781
Nonveteran					
NLS 1979 in 1985	Married & Div/Sep[d]	233	17,952	14,699	10,934
	All	636	15,748	12,252	11,270

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
Married & Div/Sep				
PI Separated & Active	94	12,281	164.8	- 0.4[ns]
NLS 1979 in 1985	172	10,246		
All				
PI Separated & Active	154	12,703	232.2	0.3[ns]
NLS 1979 in 1985	470	10,965		

[a] Total income = respondent's wages and farm or business income plus respondent's or wife's money from interest on savings, dividends, social security, workers compensation, VA benefits, pension annuities, rental income, royalties, and other sources in dollars.

[b] Weighted frequency produced by demographically equating the military and civilian samples.

[c] Separated includes those serving in the reserves.

[d] Div/Sep = Divorced or Separated.

ns = Not Significant.

Table C-17

Highest Grade of Regular School Completed for Potentially Ineligible and NLS 1979 Samples

Sample	Highest Grade Completed N[a]	Mean	Median	Standard Deviation
Veteran				
PI Separated[b]	300	11.3	12	1.4
PI Separated and Active Duty	325	11.4	12	1.4
Nonveteran				
NLS 1979 in 1985	862	11.6	12	1.7

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PI Separated	226	1.4	486.5	- 2.3**
NLS 1979 in 1985	636	1.7		
PI Separated & Active	245	1.4	553.2	- 1.8*
NLS 1979 in 1985	636	1.7		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

[b] Separated includes those serving in the reserves.

* = $p < .10$
** = $p < .05$

Table C-18

Number of Children Fathered by Potentially Ineligible and NLS 1979 Samples

Sample	N^a	Mean	Median	Standard Deviation
	Number of Children Fathered			
Veteran				
PI Separated and Active Duty	325	1.1	1.0	1.1
Nonveteran				
NLS 1979 in 1985	879	0.6	0.0	0.9

t-Test Statistics

	Effective Sample	Standard Deviation	Degrees of Freedom	t Value
PI Separated & Active	245	1.1	359.42	- 5.5***
NLS 1979 in 1985	649	0.9		

[a] Weighted frequency produced by demographically equating the military and civilian samples.

*** = p < .01.

Table C-19

Binomial Test for Significance of Effect of Military on Career for Potentially Ineligible Sample Separated From Service at Time of Survey

Binomial Comparison	Test Proportion	Observed Proportion	2-tailed Probability
Helped vs. Hurt/No Effect	.500	.522	.49ns
Helped vs. Hurt	.500	.846	.00***
Helped vs. No Effect	.500	.577	.01**
Hurt vs. No Effect	.500	.199	.00***
Hurt vs. Helped/No Effect	.500	.095	.00***

Chi-Square Test for Significance of Effect of Military on Career for Potentially Ineligible Sample Separated From Service at Time of Survey

Category	Cases Observed	Expected	Residual
Helped Career	154	98.33	55.67
Hurt Career	28	98.33	-70.67
No Effect	113	98.33	14.67

Chi-Square	Degrees of Freedom	Significance
84.0	2	.00***

** p = < .05
*** p = < .01
ns = Not Significant.

Table C-20

Age at Entry, Length of Service, and Age at Separation for Project 100,000 (PK) and Potentially Ineligible (PI) Samples

	N	Mean	Median	Standard Deviation	t Value
Age at Entry (years)					
PK Separated[a]	298	20.3	20.0	1.8	-11.5***
PI Separated[a]	291	18.8	19.0	1.4	
Length of Service (months)					
PK Separated[a]	295	25.4	24.0	14.7	-5.5***
PI Separated[a]	291	33.4	36.0	20.2	
Age at Separation (years)					
PK Separated[a]	294	22.1	22.0	2.5	-1.8*
PI Separated[a]	293	21.7	22.0	2.2	

[a] Separated includes those serving in the reserves.

* = p < .10
*** = p < .01